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# AMERICAN NURSERYMAN

*The Nurseryman's Forte: To Make America More Beautiful and Fruitful*

MAY 15, 1939



**Cytisus Purgans**

**Compiling a New Nursery List  
Plants for Continuous Bloom  
Present Phases of Arboriculture  
Sights to See on Convention Trip**

# AMERICAN NURSERYMAN

Chief Exponent of the Nursery Trade

F. R. KILNER, Editor

Published Semi-monthly by  
AMERICAN NURSERYMAN  
PUBLISHING CO.

508 S. Dearborn Street,  
Chicago, Ill.

Telephone: Wabash 5194

New York Office—67 West 44th Street  
N. L. Huebsch Tel. Murray Hill 2-4871

Entered as second-class matter December 11,  
1923, at the post office at Chicago, Ill., under  
the act of March 3, 1879.

SUBSCRIPTION PRICE. \$1.00 per year; out-  
side United States, \$1.50. Single copies, 10c.

ADVERTISING RATES on application. Forms  
close on 10th of month for mid-month issue  
and on 25th of previous month for first-of-  
month issue. If proofs are wanted, copy  
should be on hand one week earlier.

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## BUSINESS EXPANSION.

If Congress follows the current recommendation that payments for old age pensions under the social security act be continued at two per cent until 1943, instead of being increased to three per cent in 1940, there is a decided possibility that tax receipts generally would gain, rather than lose, by the result. That would become more than a possibility if other tax measures were made more lenient, so that a somewhat larger portion of income could be carried through to net profit.

Examples are to be found easily in this field. Many a nurseryman found himself, when the depression came, with all his capital tied up in land and nursery stock. When sales were cut to a fraction, sometimes as low as one-tenth, of preceding years, every cent of revenue went for labor and necessary expenses to carry on business. Even if there were no mortgage or other indebtedness on which interest had to be paid, there frequently was left no money to pay taxes or any return to the owner of the business beyond bare living expenses. The few enterprises which had a reserve in cash or investments were forced to draw on them in a drastic manner. For several years there was no question of paying out any money except for operating expenses, and these had to be kept to the minimum.

Only the past two years have sales been sufficiently large for nurserymen to get out of the red, catch up on taxes and other delinquent accounts. For the first time in years, nurserymen have had a little money to lay out for

new equipment, sorely needed to replace worn-out trucks, tractors, sprayers, etc.

Obviously, under the conditions described, nurserymen have not been subject to income taxes. But they have had to make considerable payments in pay roll taxes, inasmuch as labor is an exceedingly large part of the cost of producing nursery stock and planting landscape material. If those payments are lightened, or at least not made heavier, there is better prospect of net earnings with which nurserymen may buy needed equipment.

What is true in this field is doubtless equally true in other lines of business. Hence a chance to make a profit as business expands will have a wide-spreading influence on industry generally in this country. The number of motor trucks, for instance, that nurserymen would buy if their net profits were increased twenty-five per cent would run into the thousands. Other sorts of equipment and improvements are as much needed. The contribution to business expansion in other industries would be material if nurserymen could derive a better profit in their own business.

## TREE PRESERVATION.

To ensure the satisfaction by customers of trees planted for them, nurserymen are giving increased attention to their care after planting, especially large specimens. Some nursery firms have their own staffs of tree workers, while others cooperate with organizations specializing in tree care. The surface has only been scratched. The importance of this type of work and the various phases that require study are set forth with his usual thoroughness in the article in this issue by A. Robert Thompson, of the national park service, whose series of pamphlets on tree preservation work, recently revised and reissued as government bulletins, are the most authoritative texts on the subject. His earlier articles in these columns and his present contribution of his talk before the Southern Shade Tree Conference indicate his recognition of the part nurserymen have in the future of arboriculture in a commercial way. Not only will those nurserymen engaged in tree work find

his comments valuable, but also those who are asked for advice on the tree problems by customers.

## CYTISUS PURGANS.

Cytisus purgans, the Provence broom, a beautiful shrub with fragrant yellow flowers, is not used to so great an extent as one would expect. This may be due to the large amount of deadwood the plant produces when cultivated outside of its native habitat, making continual pruning necessary.

The Provence broom is somewhat similar to Cytisus scoparius, Scotch broom, but it does not attain the 10-foot height common to this species.

The large pealike flowers are produced singly on nearly hairless branches during May and June. The plant, which grows to about three feet, is upright and slender, with leaves that are usually 3-lobed. When young, the branches are slightly hairy and have a greenish color.

Because of the unique appearance, caused by the leafless branches, the Provence broom is recommended for use in protected shrub borders. As it is rather tender, it must be planted in protected locations in the northern portion of the country. It will do well for seashore plantings and in waste places, its native home. Sunny places or the tops of exposed rocks are also recommended as locations for plantings.

Thriving in sandy soil, the plant is not affected in its growth by soil acidity. Propagation is accomplished by soaking the seeds and sowing them in May. The plant will usually produce blooms the second year.

## ARONIA FRUIT COLOR.

On this page in the May 1 issue, Aronia melanocarpa elata was indicated as having red berries, whereas they are black. The red berries are found on Aronia arbutifolia.

THE April bulletin of popular information, of the Arnold Arboretum, devotes the entire issue to an article, "Rhododendrons in the Pacific Northwest," by Herbert Ihrig, chairman of the rhododendron committee arboretum foundation, Seattle, Wash.

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(Registered U. S. Patent Office)

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VOL. LXIX

MAY 15, 1939

No. 10

## Compiling a New Nursery List

*Sixth in Series of Articles on Selection of Superior Varieties of Deciduous Woody Ornamental Plants, Covering Large Shrubs and Small Trees—By L. C. Chadwick*

Continuing the discussion of a new nursery list of deciduous, woody ornamental plants, I now come to group 6, the large shrubs and small trees ranging from ten to thirty feet in height. The plants in this group may be of two general types of growth. They may be shrubby, with a number of stems arising from the base of the plant, or they may be more upright and treelike, with only one trunk issuing from the ground. Because of the exceedingly large number of plants in group 6, it seems advisable to limit this article to only the shrubby types. It is somewhat difficult exactly to allot the plants into the two classes based on habit of growth. This is due to the fact that some of the plants, such as *Cornus mas*, the cornelian cherry, are grown both as bushy and treelike specimens in the nursery. Classification will be based on the most common type of production. Thus if you do not find some one or more of your pet plants in the shrubby group, it is quite likely it will appear with the treelike forms.

The shrubby plants in this group are presented, as with group 5, in three classes: 1, Selected list; 2, secondary list, and 3, plants to discard. I refer you to the April 15 issue of the *American Nurseryman* for a fuller discussion of the basis of these classes as well as for a general statement on plant selection.

Even the shrubby forms in this group constitute a large list of plants. Eliminating some of the rare plants, there are approximately fifty-five genera and some two hundred different plants. This number of in-

dividual plants does not include the many hybrid varieties of lilacs, some 375 or more varieties, or the varieties of philadelphus coming within the group. Due to this large number of plants, it is necessary, as with the past articles, to limit the discussion to outstanding characteristics of the selected list and make a comparison in a few brief notes with some of those in the secondary or discard list. In general it may be stated that the large shrubby plants, ten to thirty feet in height, constitute one of our most useful groups of materials for landscape work. Many of them can be used in informal border plantings or in clipped hedges or screens to provide privacy for the garden area. Others make pleasing specimens because of attractive flowers and fruits in addition to good green foliage throughout the growing season of the year, while still others may find a place as large corner groups in foundation plantings.

Brief discussions of the twenty selected plants are given below. The plants in the selected group constitute about ten per cent of the plants and those in the secondary list approximately thirty-two per cent. This leaves about fifty-eight per cent in the list of discards, but this is not so great as the percentage of discards in group 5. This bears out the expressed opinion made earlier that group 6 comprises a larger percentage of worthwhile plants than any of the other groups. This fact can also be interpreted to mean that we need more small and medium-size shrubs, rather than those ranging from ten to thirty feet, and plant breeders might well

expend their efforts with this thought in mind.

*Caragana arborescens*, the Siberian pea tree, is worthy of more extensive use. Its narrow, upright habit of growth commends itself to many places. It may be used as a specimen if given rather severe pruning to develop new growth adequately clothed with foliage. The small leaflets, yellow pea-shaped flowers in April or early May and greenish twigs make it useful as an accent point in the border. It lends itself readily to hedge planting and is comparatively free from pests. As a hedge plant of small proportions it may not be equal to *Caragana Maximowicziana* or *microphylla*, discussed earlier, but for a screen eight to twelve feet high it is excellent. It is hardy and stands dry soil well.

*Chionanthus virginica*, white fringe tree, usually varying in height from eight to fifteen feet, makes an excellent large shrub or small tree for use in border plantings to give a contrast of height and size of foliage. The large, dark, somewhat glossy leaves are attractive throughout the summer and add a pleasingly bright yellow to the array of autumn foliage colors. The white flowers, with drooping petals, are borne in loose panicles from buds near the ends of the past year's wood in late May or early June. Dark blue fruits are produced fairly abundantly in late August. In using this plant as a specimen or for the border one must choose between abundant flowers or fruits. Since the male and female flowers are normally borne on separate plants, only the plants with female flowers produce



fruits. However, the male plant produces larger flowers and longer clusters. Growing in either full sun or partial shade, the fringe tree prefers acid, moist, but well drained, sandy loam soil. Objections raised in regard to the more extensive use of this plant include its slow growth and the difficulty often experienced in transplanting it. These objections, however, are not serious.

The Chinese fringe tree, *Chionanthus retusa*, is smaller, more bushy in habit, flowers later and is considered by many plantmen superior to the white fringe tree. Tests, however, are not sufficient to warrant its replacing our native form at the present time.

*Cornus mas*, cornelian cherry, usually precedes the forsythias in bloom by a few days to a week or more, but accompanies them through most of the flowering period. The cornelian cherry may be said to be one of the

most attractive early-flowering large shrubs or small trees. The plant and flower buds are perfectly hardy and almost always give us good spring bloom while the buds of the forsythias are frequently injured. This year the small yellow flowers of *Cornus mas* appeared during the week of March 20, which is about a week later than usual.

Besides the attractive flowers, the cornelian cherry has many other good characteristics. Possessing attractive bark, foliage which persists late in the autumn, fruit and general habit of growth, this plant should be of use in many landscape combinations. The large cherrylike red fruits ripen in midsummer, but are so hidden by the foliage that they do not attract much attention. The cornelian cherry may be grown in two distinct forms, both of which are useful. It may be made to branch low with a number of stems, thereby producing

a dense, bushy effect which makes it useful as screen material, or it may be grown with one main trunk into a small tree of twenty feet or more. As such it makes a delightful small specimen tree. Fortunately, this plant will grow in almost any soil with little care and still give a pleasing effect. It tolerates either sun or shade and certainly should find a much more extensive use.

It will be noticed that most of the varieties of *Cornus mas* are placed on the discard list. This includes the types with white and yellow fruits and yellow and variegated foliage. An exception to these varieties, and one that is placed in the secondary list, is the variety *elegantissima*. The creamy white variegated leaves, tinged with red, are quite attractive. It will be used in limited quantities, but as an accent point in the border it has some value.

Another species of dogwood which

#### SELECTED LIST.

*Caragana arborescens*, Siberian pea tree.  
*Chionanthus virginica*, white fringe tree.  
*Cornus mas*, cornelian cherry.  
*Cotoneaster foveolata*.  
*Exochorda Giraldui* Wilsonii, Wilson pearl bush.  
*Hibiscus syriacus*, shrubby althaea.  
*Ligustrum amurense*, Amur privet.  
*Ligustrum vulgare*, European privet.  
*Lonicera Maackii* podocarpa, late honey-suckle.  
*Rhamnus Chadwicki*.  
*Symplocos paniculata*, Asiatic sweetleaf.  
*Syringa chinensis* (selected varieties).  
*Syringa vulgaris* (selected varieties).  
*Syringa Henryi* Lutèce.  
*Viburnum americanum*.  
*Viburnum Lantana*, wayfaring tree.  
*Viburnum macrocephalum* sterile, Chinese snowball.  
*Viburnum prunifolium*, black haw.  
*Viburnum rufidulum*, southern black haw.  
*Viburnum Sieboldii*, Siebold viburnum.

#### SECONDARY LIST.

*Æsculus parviflora*.  
*Æsculus splendens*.  
*Baccharis halimifolia*.  
*Benzoin æstivale*.  
*Buddleia alternifolia*.  
*Chionanthus retusa*.  
*Clerodendron trichotomum*.  
*Colutea arborescens*.  
*Cornus mas elegantissima*.  
*Cornus officinalis*.  
*Corylus maxima purpurea*.  
*Cotoneaster lucida*.  
*Cotoneaster moupinensis*.  
*Cotoneaster Simonsii*.  
*Cydonia oblonga*.  
*Decaisnea Fargesii*.  
*Davidia involucreta* and variety.  
*Enkianthus campanulatus*.  
*Evonymus americanus*.  
*Fontanesia Fortunei*.  
*Holodiscus discolor*.  
*Hamamelis japonica*.  
*Hamamelis virginiana*.  
*Lagerstroemia indica*.  
*Leitneria floridana*.

*Leucothoe racemosa*.  
*Ligustrum Ibolium*.  
*Lonicera demissa*.  
*Philadelphus purpurascens*.  
*Prunus cistena*.  
*Prunus incisa*.  
*Rhamnus davurica*.  
*Rhamnus Frangula*.  
*Rhus copallina*.  
*Rhus Cotinus atropurpurea*.  
*Rhus typhina*.  
*Salix discolor*.  
*Salix incana*.  
*Shepherdia argentea*.  
*Styrax japonica*.  
*Styrax Obassia*.  
*Syringa Josikaea*.  
*Syringa oblata*.  
*Syringa reflexa*.  
*Syringa villosa*.  
*Tamarix gallica*.  
*Tamarix pentandra*.  
*Vaccinium corymbosum*.  
*Viburnum betulifolium*.  
*Viburnum burejaeticum*.  
*Viburnum cotinifolium*.  
*Viburnum dentatum*.  
*Viburnum erubescens*.  
*Viburnum fragrans*.  
*Viburnum furcatum*.  
*Viburnum Lentago*.  
*Viburnum lobophyllum*.  
*Viburnum molle*.  
*Viburnum nudum*.  
*Viburnum ovatifolium*.  
*Viburnum Sargentii*.  
*Viburnum Sargentii flavum*.  
*Viburnum theiferum*.

#### PLANTS TO DISCARD.

*Alnus incana* and varieties.  
*Alnus rugosa*.  
*Amelanchier oblongifolia*.  
*Amelanchier ovalis* (spicata).  
*Amygdalus communis*.  
*Amygdalus Davidiana* and varieties.  
*Amygdalus Persica* and varieties.  
*Aralia spinosa*.  
*Asimina triloba*.  
*Azalea canescens*.  
*Azalea luteum* and varieties.  
*Azalea Schlippenbachii*.

*Azalea Vaseyi* and varieties.  
*Clethra acuminata*.  
*Clethra barbinervis*.  
*Cornus mas* (most varieties).  
*Corylus Avellana* and varieties.  
*Corylus Sieboldiana*.  
*Cotoneaster acuminata*.  
*Cotoneaster acutifolia* and varieties.  
*Cotoneaster affinis*.  
*Cotoneaster ambigua*.  
*Cotoneaster frigida*.  
*Cotoneaster obscura* and varieties.  
*Cotoneaster tomentosa*.  
*Dipelta floribunda*.  
*Dipelta ventricosa*.  
*Elæagnus argentea*.  
*Elæagnus umbellata* and varieties.  
*Evonymus hians*.  
*Hippophae rhamnoides*.  
*Ilex decidua*.  
*Ilex serrata*.  
*Leucothoe recurva*.  
*Ligustrum Ibotia*.  
*Ligustrum obtusifolium*.  
*Ligustrum ovalifolium* and varieties.  
*Ligustrum vulgare* (most varieties).  
*Lonicera chrysantha*.  
*Lonicera Ruprechtiana* and variety.  
*Lycium chinense*.  
*Lycium halimifolium*.  
*Myrica cerifera*.  
*Philadelphus coronarius* and varieties.  
*Philadelphus Delavayi*.  
*Philadelphus Gordonianus*.  
*Philadelphus inodorus*.  
*Philadelphus pubescens*.  
*Prunus virginiana*.  
*Ptelia trifoliata*.  
*Rhamnus cathartica*.  
*Rhus glabra* and varieties.  
*Salix viminalis* and variety.  
*Syringa amurenensis*.  
*Syringa emodi*.  
*Syringa pinnatifolia*.  
*Syringa tomentella*.  
*Syringa vulgaris* (most varieties).  
*Syringa Wolfi*.  
*Tamarix hispida*.  
*Tamarix juniperina*.  
*Viburnum Opulus* and most varieties.  
*Xanthoceras sorbifolia*.  
*Xolisma ligustrina*.  
*Zanthoxylum americanum*.



is placed in the secondary list is *Cornus officinalis*, the Japanese cornelian cherry. It is a little larger than the cornelian cherry and likely to be more treelike. The two are similar. The reddish-brown bark, peeling and curling on young branches of *C. officinalis*, is attractive. The so-called flowering dogwoods will be discussed later in the small tree group.

A good many of the cotoneasters come under the classification of large shrubs. Included are both red and black-fruited forms. It seems to me that the best of the red-fruited cotoneasters come within the smaller groups and have already been discussed. Thus, with the exception of *C. Simonsii*, which is placed in the secondary list, the other red species, *C. acuminata*, *frigida*, *obscura* and *tomentosa*, are placed in the list of discards.

Of all the black-fruited forms, *C. foveolata* is my choice. This is due to its vigorous habit of growth and its apparent greater immunity from insects and diseases. Its upright, stout-branched habit of growth and dark green foliage changing to red or orange in the autumn signify its use as a specimen or border shrub. It will stand clipping quite well, thus may be used as a hedge. Cotoneaster *lucida* and *C. moupinensis*, two other black-fruited species, are nearly as good or in some situations may be superior. Other black-fruited species, *C. acutifolia*, *affinis* and *ambigua*, are placed in the discard list.

*Exochorda Giraldui* Wilsonii, Wilson pearl bush, is similar in most respects to the common pearl bush, but this species and variety possess more attractive foliage and reddish flowers, especially in bud. Those who have shunned the use of the common pearl bush, *Exochorda grandiflora*, because of its thin, rather light green foliage, cannot criticize *E. Giraldui* or its variety *Wilsonii*. The variety, *E. Giraldui* *Wilsonii*, is better than the type because of its more upright, vigorous growth habit, better foliage and more abundant flowering. Blooming in early May, it is useful as a specimen or probably better for border planting in full sun or partial shade.

It is not my intention in connection with *Hibiscus syriacus*, the shrubby althaea, to discuss its numerous varieties. The choice of these may depend largely upon one's individual desire since a wide variation in color may be obtained. The shrubby

althaea is so common that it is usually referred to as "the fall-flowering shrub" since its flowers are produced from late July through August and into September. Objections can be raised to the shrubby althaea in that the terminal twigs are frequently winterkilled and the fruit capsules persist, unless removed, to give a shabby appearance to the plant. Good cultural practices in landscape plantings include the removal of the old flower clusters after the blooming period is over and pruning any deadwood in the spring. The shrubby althaea is among the latest of the plants to develop leaves in the spring. Regardless of these faults, the rose of Sharon, as it is frequently called, is useful in many landscape plantings. As an individual plant it may be developed as a bush or as a small tree. Since its habit of growth is narrow and upright, it is frequently useful where a plant with height and little spread is desired. It may be used as a narrow, free-growing hedge or trimmed to a formal type. As a hedge

[Continued on page 24.]

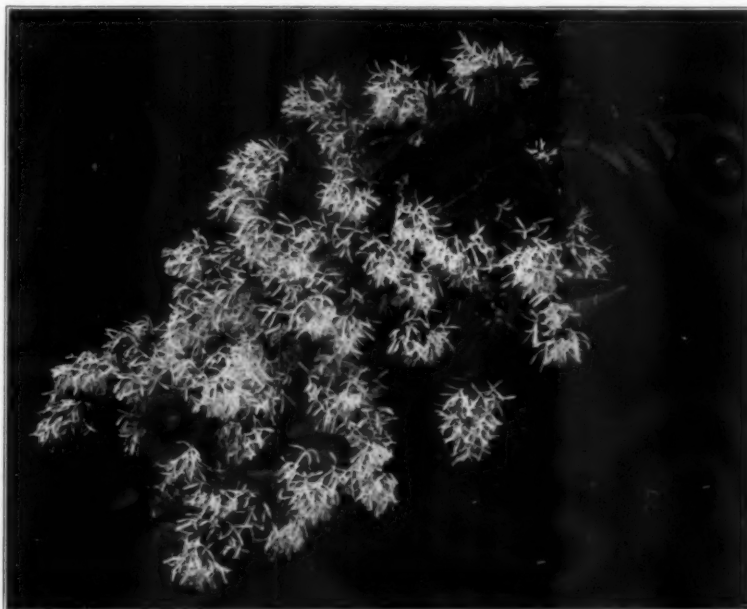
#### CHINESE FRINGE TREE.

The American fringe tree, *Chionanthus virginica*, is familiar to all of us, but its Chinese counterpart, *C. retusa*, as yet is scarcely known. Strange to say, Prof. C. S. Sargent, the late director of the Arnold Arboretum, altogether misjudged the ornamental prop-

erties of this plant, and with his pronouncement that it was inferior to the American fringe tree he blocked for some time its entrance into our gardens. All who have seen the two magnificent specimens of *C. retusa* at the New York botanical garden when they are in full flower will certainly agree that this judgment was mistaken.

The foliage of the American fringe tree is rather coarse and its habit of growth, at least here in the northern states, frequently leaves much to be desired. The Chinese species, on the other hand, readily forms a small tree with a well balanced head. Its leaves are smaller, roundish and smooth, somewhat like those of the lilac. Its flowers, of a wonderful snowy whiteness, appear a full week earlier—not later, as sometimes stated—than those of the American fringe tree. Because of its habit and leaf shape it associates well with late-flowering lilacs, such as *Syringa villosa* or the more beautiful *S. Henryi* Lutèce. For these lilacs there could really be no finer companion, certainly none that would set them off to better advantage. The treatment generally accorded to a lilac will also suit this fringe tree. Its blue, berry-like fruits, much beloved by the birds, are freely produced and provide a ready means of increase. As far as the writer has been able to find out, *Chionanthus retusa* is not as yet available in the American nursery trade.

H. Teuscher.



*Chionanthus Retusa.*

# Wages and Hours Law

## MORE FLEXIBLE HOUR LAW.

Most important of the amendments to the fair labor standards act of 1938, commonly called the wages and hours law, among those reported favorably by the committee on labor of the House of Representatives is that which would confer upon the administrator the authority to issue regulations covering any of the provisions in the act.

As the law stands at present, the administrator may give his opinion or interpretation of a provision of the act. But even if an employer follows that opinion to the letter, acting in good faith, there is nothing to prevent his being brought into court on a suit by employees to recover back wages and an additional penalty under the law. In other words, the most conscientious employer cannot be certain he is right in an interpretation of the act, even if it has been given by the administrator, until a court decision reassures him.

Under other federal laws, power has been given certain officials to make interpretations, conformance with which gives protection from both civil and criminal liability. One of the most objectionable features of the wages and hours law has been the lack of such a provision. Even those heartily in accord with the law and its objects have seen clearly the uncertainty that develops under the present procedure.

That uncertainty has led the administrator to issue opinions in interpretation of the law, even though they have no legal status. Several of these have affected the terms of the act as they relate to nursery employees.

This amendment to the law should have the fullest support of nurserymen, as it would enable them to know exactly where they stand with the exemptions applicable in this field, some of which still need to be more closely defined.

## PAYMENT FOR OVERTIME.

Overtime payment required by the federal wages and hours law may be made by giving the employee time off, according to a recent ruling by Administrator Andrews. It is essen-

tial, however, that the employee be paid at regular pay periods. For instance, a worker who is employed for a regular 44-hour week at \$100 a month, payable \$50 on the first and \$50 on the fifteenth of the month, works forty-eight hours in one week and is thus entitled to his regular weekly wage plus time and one-half for the four additional hours. It is permissible for the employer to request the employee to work only thirty-eight hours—giving him six hours off—and pay him the regular \$50 on the next pay day.

Certain points should be borne in mind in this connection. Under no circumstances will such a scheme apply to anyone other than an employee employed for a regular stipend. The time off given for overtime must be within the pay period. The act cannot be violated by using a variation of this scheme to make up overtime. This ruling does not permit averaging out hours, unless in the week wherein the employee works less than forty-four hours his salary exceeds the actual work put in by at least the sum due in overtime from the preceding week against which it is averaged.

It may be advisable to change weekly pay periods to semimonthly or monthly pay periods, for if an employee is paid by the week, the administrator's regulation does not permit time off during the next week to average for any overtime in the previous week, since the pay period has ended.

At the same time the administrator announced the opinion that the employer should pay overtime at the same time as the employee customarily receives his pay check or pay envelope. In other words, payment of overtime must be made within a reasonable time after it has been earned and in most cases this will be the next regular pay day.

## WHITE-FRINGED BEETLE.

Under a revision of circular B. E. P. Q.-485, white-fringed beetle certification requirements have been removed until July 1, 1939, for specified articles consigned from designated portions of the regulated areas, because it has been determined that sanitary measures and

natural conditions have sufficiently reduced the risk of egg or adult contamination as to render certification unnecessary during the period.

The areas affected include Mobile county in Alabama, Escambia county in Florida, the counties of Hinds, Jackson and Pearl River in Mississippi and the parishes of East Baton Rouge, Jefferson, Plaquemines and Orleans, including the city of New Orleans, in Louisiana.

Among the specified articles are nursery stock and other plants which are free from soil.

Restrictions on interstate movement of soil, compost and manure, whether attached to nursery stock, plants and other articles or not, remain in effect throughout the year.

## MINNESOTA EXEMPTION.

The Minnesota state legislature, in the closing days of its session, passed bill No. 1530, relating to the unemployment compensation law and amending the 1938 bill.

The bill, which defines employment for the purpose of paying unemployment compensation, exempts employers in towns of less than 10,000 population.

The section reads:

The term "employment" shall not include services performed subsequent to December 31, 1939, outside of the corporate limits of a city, village, or borough of 10,000 population, or more, as determined by the most recent United States census, for an employer who has paid all contributions due and payable for employment during all past periods and who is not subject to Title IX of the Federal Social Security Act, as now in force or hereafter amended, provided the services of all of such employer's employees are performed outside of such corporate limits. For the purpose of this provision service shall be deemed to be performed outside of such corporate limits if (1) performed entirely outside of such corporate limits; or (2) performed both outside and within such corporate limits, if the service performed within such corporate limits is incidental to the individual's service outside such corporate limits and is temporary or transitory in nature or consists of isolated transactions.

## MAIL FRAUD CASE.

Dallas L. Clark, owner and operator of the Wildacre Nurseries, Le-noir, N. C., entered a plea of nolle contendere in federal court at Statesville, N. C., April 25, to a charge of using the mails in a scheme to defraud, and was given a suspended sentence of four months and placed on probation for a period of one year.

# Present Phases of Arboriculture

*From Uncertain Practices Tree Treatment Has Developed Scientific and Expert Methods, Told Southern Shade Tree Conference—By A. Robert Thompson, Forester, National Park Service*

Although the modern concept of tree preservation is a far cry from that of early times, historians tell us that as far back as the days of Lysander (400 B. C.), Theophrastus (300 B. C.) and Pliny (35 A. D.) trees were pruned and their wounds coated with mud, clay or a form of beeswax by the gardeners of the day. We have actual proof that arboriculture was far from being an unknown art at least as far back as 2,000 years B. C. From that time on, various references to the art occur in the literature.

Without delving deeply into the early writings, I should like to mention William Forsyth, who in 1791 published his significant volume, "The Culture and Management of Fruit Trees." The illustrations in this book are most interesting, showing the tools used and methods followed 150 years ago.

Forsyth and his contemporaries, Knight and Pontey, carried on in the literature of the day an argument on cavity treatment which has not yet been settled. Since Forsyth had been granted 4,000 pounds sterling by the king for devising his "composition," there appears to be good reason for the controversy. The "composition" in question was made up of "fresh cow dung, old lime, wood ashes and sand." Certainly some of these early materials for aiding nature's healing processes were fearfully and wonderfully made.

Until late in the last century, tree preservation work was the province of horticulturists and gardeners, but since that time a new trade or profession devoted to specialized tree care has sprung up. As in any new field, the incompetent and the quack were quick to peddle their wares to a gullible public, and it will be many years before the evil effect of that early influence has entirely worn off. Even today, I regret to admit, the field has its shysters and incompetents, but from the beginning of the present century and especially since 1924, when the National Shade Tree Conference was organized, the balance started to swing the other way.

The practice of arboriculture has taken some long strides since the be-

ginning of this century, and today, in addition to skill in the mechanical arts, the modern arborist must be somewhat of a scientist in order to diagnose and prescribe treatment for the many ailments of shade trees, some of which are highly complex. He must study botany, dendrology and plant physiology so that he can identify the varieties of trees and understand the life processes which go on within them. A good working knowledge of forest pathology and forest entomology is important so that he may properly diagnose and recommend suitable control for the large number of parasitic diseases and insects which destroy our shade trees. He should know something of the chemical and physical properties of soils and the environmental requirements of trees of different species in order to prevent or control non-parasitic and environmental diseases.

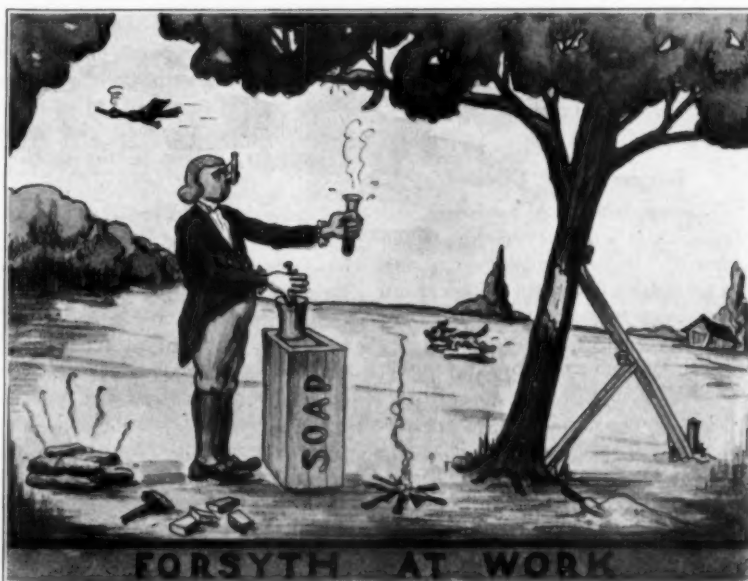
Certain aspects of meteorology are important to the arborist. He must know the effect of wind, precipitation, temperature and humidity on trees and know how to protect them from the hazards of lightning. As a prerequisite to intelligent correction or repair of structural defects the application of certain engineering principles to shade tree bracing is impor-

tant. A knowledge of applied physics is also necessary in transplanting large trees which may weigh many tons.

## Diagnosis and Preventive Work.

With the development of tree preservation along scientific lines has come a noticeable change in policy among enlightened practitioners. Whereas emphasis formerly was placed on spectacular cavity treatment, today we find the tendency is toward the less spectacular but more justifiable practices which aim toward maintenance of tree health and prevention of wounds and less toward repair of debilitated trees. We realize today that it is easier to prevent or retard disease than it is to attempt to control a major infection. We try to keep a tree healthy by fertilizing, periodic pruning, correction of structural defects, maintenance of favorable environmental conditions, spraying and minor wound treatment as required.

The prevention of tree ailments requires a considerable knowledge of the plant sciences and emphasizes the importance of correct diagnosis. Much of this work is taught in specialized trade schools maintained by the larger tree service companies. Diagnosis is not a simple procedure, for we must take into consideration the species of



Cartoonist Depicts William Forsyth Mixing Composition for Cavity Treatment.



tree and all details of its past, present and probable future environment. We must examine the leaves, buds, twigs, branches, trunks and roots for variations from the normal which may indicate trouble in some form. Thorough diagnosis often reveals that conditions which are at first thought to be of major importance in themselves really are symptoms of deep-seated and more serious trouble.

Arboriculture today has many ramifications and details of practice. I shall try to give you a hasty glance at these.

#### Parasitic Tree Diseases.

The control of fungous diseases which attack shade trees is an important part of the arborist's work. Emphasis must be placed upon prevention of infection rather than control after attack in most cases.

Attacks by leaf diseases often may be prevented by the application of fungicidal sprays, and the timing of these is important. Other diseases, such as the Dutch elm disease, of which we hear so much today, can only be controlled and the spread retarded by eradication programs. Some of the wood rots and other fungous diseases may be controlled by excision of the infected tissue and subsequent treatment to prevent reinfection. Pruning is frequently required to rid a tree of twig diseases. Two relatively new diseases which are giving us concern in the northeast are the plane disease, now found in Philadelphia, Baltimore and Washington, and the so-called Dayton disease of elm spreading rapidly in the Ohio valley. Much remains to be known of shade tree diseases and their control, and trained men are needed in the field as well as the laboratory.

#### Environmental Diseases.

The nonparasitic or environmental diseases also are vital concerns of the arborist. The relationship, symptoms, diagnosis and treatment of this group of diseases are often extremely complex. I should like to point out the tremendous influence they have upon tree health.

Possibly no other single factor is responsible for so much damage to trees as abnormal and rapidly changing weather. When we consider the effect of winds and their destructive action in scorching and drying foliage; temperature and the killing of roots, dieback of branches, frost

cracks in trunks and cambium injury by freezing or scorching; excessive or deficient precipitation with the consequent root drowning or drying and the damage caused by snow and sleet, we realize the importance of weather to the shade tree.

Chemicals have adverse effects on trees in many ways. We have the injuries caused by oils used in spray mixtures, drippings from automobiles and road oils; the damage caused by wound dressings which may contain coal tars, oils and creosotes; root injuries resulting from various salts used as dust layers and weed killers; the serious injuries resulting from escaping illuminating gas and the waste gases from manufacturing establishments, and last, but not least, the damage caused by fire.

In the group of mechanical injuries are those due to wind breakage, bark abrasions, poor workmanship, etc. One of the least excusable forms of injury is that caused by cuts or fills around trees. Too frequently the damage shows up when it is too late to rectify it, whereas the trees could have been protected by aeration systems and tree wells so as to be able to withstand the change in environment.

We all have observed some direct effects of lightning upon trees, but other electrical influences are less noticeable. When electric wires are strung too close to trees they necessitate a lamentable amount of disfiguring pruning and often cause serious injury by burning. Direct-current electricity is frequently responsible for electrolysis of gas mains. The trouble is often so serious that corroded pipes allow the gas to escape, so that electricity becomes a primary and the gas a secondary factor in the death of trees.

Under the rather broad and perhaps misleading heading "physiological" I have arbitrarily placed those abnormal factors in tree health which may result from internal disturbances or self-inflicted abnormalities; for example, the frequent bleeding of trees commonly known as slime flux, which is thought to result from a high heart-wood pressure; self-strangulating or girdling roots, which often cause severe restriction of circulation; chlorosis induced by excesses or deficiencies of chemicals in the soil, and the unexplained galls which sometimes appear on the trunks and branches of trees

and are not connected apparently with insect or fungous trouble.

The correct diagnosis and treatment of the environmental diseases is a difficult field and one which is by no means thoroughly understood today.

#### Insect Control.

The control of shade tree insects is another important phase of arboriculture. Insect attacks are relatively more serious to shade trees than they are to forest trees because of the greater individual values involved.

For the most part the arborist must depend upon artificial control of insects through the use of sprayers and dusters. From these instruments we are able to apply chemicals which kill the insects through poisoning or suffocation. Of recent interest is the use of airplanes and autogiros for large-scale control operations. We in the national park service are rather proud of the part we have played in the pioneering of this work. Four years ago at Morristown national historical park an autogiro was used for the first time to disseminate spray material over a forest area, and not only was the work found to be more economical than ground spraying, but better control was obtained.

#### Pruning.

Another major tree preservation activity is pruning. This usually is an invigorating process and not devitalizing unless carried to excess. Drastic pruning of live wood, however, not only has a definite stunting effect on the appearance, life and vitality of the tree, but renders it more susceptible to disease and insect attack.

Deadwood in a tree should be considered a symptom and not a cause of tree decline. The death of branches may be traced to many causes, among which are unfavorable soil conditions, inadequate or superfluous water supply, mechanical injury, shading, gas injury, insect or disease attack and root injury. Treatment of a tree which contains an excessive quantity of deadwood should not be considered completed when the dead branches are removed. Proper treatment must also include the correction of the condition causing the injury when this is possible.

There are several types of pruning, which might be classified as specimen tree pruning, utility line clearance,

[Continued on page 28.]

# Plants for Continuous Bloom

*First in Series of Articles on Species of Hardy Plants Flowering over a Long Period Includes Scabiosas and Achilleas—By C. W. Wood*

Gardeners expect many unreasonable things from their plants, such as the ability to get along without any care and to hunt around for their own food, but perhaps the most absurd of all is when they ask for a continuous performance in the production of flowers. They do not stop to consider the fact that such behavior is rare in nature, especially in temperate and arctic regions, from which we draw practically all of our outdoor material, where plants of necessity have to hurry up with the flowering process so they can mature a crop of seeds before winter or competing plants put a stop to their activities. Fortunately, though, a few in nature have acquired the habit of covering much of the open season with their colorful bloom and several others have captured the art since man has taken them under his care. It is not likely, of course, that I have found all of the kinds with that gracious habit, but I shall try in the following notes to point out enough to make a success of any venture in long-time blooming plants.

One should always look on any scabiosa as a possible member of the long-blooming fraternity and, although a few, like *Scabiosa Hookeri* and *S. suaveolens*, may fool us by crowding their flowering period into a month in summer, most of the seventy-five or more species will give a bountiful harvest from June until autumn. Add to the foregoing the fact that most kinds are easily satisfied in any sunny, well drained situation and one has a group of really valuable plants. It should be pointed out, however, in all fairness that few are spectacularly beautiful, depending more upon their long flowering season than upon other ingratiating attributes to catch the gardener's eye.

*Scabiosa caucasica* is an exception to most of the rules of the scabious world in being both spectacularly lovely and of a rather finicky disposition. The former is too well known and the plant is too familiar to need comment here, but it may be profitable to give a little space to its culture. Persons coming back from western Europe, especially from the moist temperate climate of the British isles, rail

at growers in this country because we do not produce the high-quality flowers with which they became familiar on the other side, forgetting or not knowing that it takes exactly the conditions which prevail there to grow their extra-large flowers on long stems. Judging from the nature of the plant, it is not likely that a strain will ever be evolved that will be capable of producing, in our trying climate, the results obtained under ordinary culture in England, but a little manipulation of one's growing medium and growing conditions will usually work wonders with what we now have. First of all, large flowers on long stems presuppose a fertile soil, preferably, I believe, one rich in humus. Therefore, well rotted manure thoroughly incorporated with the soil to a depth of a foot is a good foundation. One cannot expect the best results from the ordinary mine-run of plants, either, for there is not a little variation in size of flower, length of stem and color in all lots of seedlings. The accumulation of superior kinds, then, is a matter of careful selection from large lots of seedlings and covers years of effort. And, finally, we can at least partially overcome the handicap of our dry, hot summers by mulching between the rows and around the plants, by irrigation, or both. The results in a superior product of cut flowers, if one is near a good market, will pay well for the efforts put into such a venture.

The sudden popularity of *S. Fischeri* has brought two or three inferior species to light which are traveling under the *Fischeri* label. At any rate, I have had both *S. japonica*, with a month-long production of violet-colored flowers during July, and *S. Columbaria*, a rather variable species, though usually with light mauve flowers on 18-inch plants in July and August, from seeds bought as *S. Fischeri*. The true plant is quite a good thing, though not at present comparable with the better forms of *caucasica*, but it does better than the latter in the climate of the middle west and for that reason will no doubt become popular with amateurs. As it grows here, the plants are about eighteen inches tall, with deep violet-

blue flowers up to two inches or more in diameter and on long stiff stems, which makes it an admirable cut flower as well as a good garden ornament. Incidentally, it does well for me in my light sandy soil without irrigation or other special care, blooming from July onward.

Aside from *S. Columbaria* and *S. japonica*, which were mentioned in the preceding paragraph, *S. ochroleuca* and *S. Webbiana*, the latter sometimes, and perhaps correctly, made a variety of the first, deserve attention in any list of long-time bloomers. Neither is especially showy with its rather small creamy-yellow pin-cushions, yet both, at least under conditions here and contrary to the reports that their blooming period is restricted to the month of August, are a mass of flowers from June until frost. The greatest difference between the two is in size of plant, the former being about two feet high and the latter seldom over a foot. They are among the most accommodating of plants for the dry sunny garden.

This does not exhaust the list of border scabiosas of long blooming habit, but it should show that one is justified in looking upon any member of the genus as an addition to the continuous-bloom garden. Further searching will reveal the dull red Italian, *S. lyratifolia*; the reddish seaside scabious, *S. maritima*; the bluish Spaniard, *S. pyrenaica*, and others. Three or four new ones, not yet available in commerce, are under test here now and will be reported on later.

When scabiosa came through the evolution factory, the rock gardener was also remembered with several species, just two of which will be mentioned now. The well publicized *S. graminifolia* is perhaps too highly praised if it behaves elsewhere as it does here. Do not take that to mean that the plant lacks merit, but rather that writers have allowed the merit it does possess to hide its defects. One reads that it blooms prodigiously from June to October, and it may in its home in southern Europe, but here it crowds most of its blooming into June and a part of July and then blooms sparingly to frost. It is not kept un-

less it has perfect drainage. But give it a position in a wall or other well drained spot in full sun, and allow it a rather limited diet, and there are few more entrancing pictures than the one it makes when its tuft of silvered leaves is supporting foot-high stems of lavender pincushions. On the other hand, *S. lucida*, which is usually spoken of as a June and July bloomer, gives the lie to the report by flowering more or less continuously from June until frost. It does this under ordinary garden conditions, regardless of moisture or lack of it, producing a succession of rosy-lilac flowers on 9-inch stems regardless of weather.

Judged from the garden standpoint, cephalariae are coarse-growing scabiosas, most of them with a flowering period in July and August. As such they are not entitled to a place in our present enumeration, but one is assured of finding worth-while material in the genus when summer bloom is wanted.

*Achillea* is another genus rich in season-long bloomers, but as most are well known little space will be consumed in their praise. I should like, however, to devote a little time to *A. filipendulina* and its possibilities. I recall no other readily available plant of equal merit that is so seldom seen in gardens and nurseries. That should not be, for the plant can take care of itself under the most adverse conditions, which makes it a natural for the careless gardener, and in its better forms at least it is a splendid garden plant and a good cut flower, the heads being usable also as dried flowers throughout the winter. As generally available, the plant grows two or three feet high, with heads of variable size, though usually not over three inches across, and of a rather undesirable brassy yellow. That, no doubt, is the reason the plant is not more popular, but it gives no more than a hint of what it really is in its better forms. Any group of seedlings is likely to show a variation in color from the normally dull yellow to brighter shades, and the selection of the latter should eventually lead to something really good. No doubt it was the path traveled to the destination that ended in the form known as Parker's variety, a 3-foot plant carrying large heads of clear yellow flowers from June until frost. I should say, however, that that is what Parker's variety should be, though the plants one sees in gardens are not always clear yellow, a

condition that arises no doubt from the fact that the plants have been grown from seeds and that method of propagation cannot be depended upon to produce uniform plants of this or any other variety of *filipendulina* that I have grown. True Parker's variety is a splendid plant that will repay vegetative reproduction, which is easily accomplished by division or cuttings, the latter preferably in early spring. I have not grown, but receive good reports on a new variety known as Hulapolic strain, which is now reaching trade channels in this country. It is said to commence blooming a month earlier than any other variety, continuing no doubt until autumn, with large heads of lemon-yellow flowers. That would make an especially good cut flower item and as such deserves investigation.

On second thought, however, I think it best to include a few notes on the newer varieties of *A. Ptarmica*, a species that is of great importance in cut flower channels as well as landscape work. If one is to judge from nursery lists, too much dependence is, however, placed in the type and the old double form, The Pearl. The latter is a splendid variety, of course, but it should be supplemented with the following: Boule de Neige (Snowball), which is an improved The Pearl, with more fully double flowers on 15-inch stems instead of the two feet of the latter; Mont Blanc, another improved The Pearl, with larger flowers and stiffer stems, and Perry's White, which is perhaps the best of all *Ptarmica* varieties for cutting because of its large white (the whitest in its class) flowers from June until September.

#### IRIS SOCIETY MEETS.

The annual meeting of the American Iris Society, presided over by Dr. Harry H. Everett, president, was held at the Hotel Oakland, Oakland, Cal., May 6. At the dinner meeting two regional vice-presidents, Mrs. Lina Lothrop, San Bernardino, representing southern California, and Mrs. George Pollock, Sacramento, representing northern California, were elected. Miss Hansen Currier was appointed newest member of the judges' group.

Chicago was chosen as the meeting place for next spring, while new officers will be chosen six months from now.

#### QUARANTINE QUARTERS WILL MOVE TO HOBOKEN.

The Department of Agriculture announced May 6 that general headquarters for the inspection of imported nursery stock would be moved next spring to Hoboken, N. J.

Lee A. Strong, chief of the bureau of entomology and plant quarantine, reported that contracts had been awarded and work started on construction of a \$400,000, 4-story inspection house on River street, between Second and Third streets, Hoboken. The place will be ready for occupancy early in 1940.

Three floors in the new building will house six vacuum fumigation chambers and a battery of vats and other equipment for giving plants thermal treatments with moist and dry air as well as hot water. The other floor will be set aside for laboratories for the study, propagation and introduction of foreign insect parasites and predators.

When the building is ready for service, an end will be brought to the present arrangement, in effect since 1919, under which most imports must be sent to Washington for inspection and, if necessary, treatment. It is estimated that construction of the Hoboken station will eliminate the necessity for forwarding to Washington 4,500 to 5,000 shipments annually.

Approximately eighty per cent of all foreign plant importations arrive at the port of New York, most of them at Hoboken.

#### OLEANDER CITY.

The annual oleander festival of Galveston, Tex., will be held May 12 to 14, at which time the city will glorify its thousands of oleander bushes.

Galveston, known as the "Oleander City," has over a million oleander bushes of more than fifty-two varieties. These bushes start blooming in April and continue through until autumn. The oleander was first introduced to Galveston in 1841, and since that time the parkways and streets have become lined with this plant.

OUT of the thirty-one states in which a wages and hours bill has been introduced, eleven have the measure still pending, while it has been defeated in the other twenty.



# Sights to See on Convention Trip

*Western Hospitality and Scenic Wonders Afford Wide Variety of Attractions for Nurserymen Attending A. A. N. Gathering at Portland, Ore., in July*

On their return from the annual convention of the American Association of Nurserymen, at Portland, Ore., next July, nurserymen will find many scenic routes open to them and many places of interest to visit on the Pacific coast and in the Rocky mountain region. The sights to be seen on the special train westbound and during the stay at Portland have been described in previous issues.

Salt Lake City, Utah, en route from San Francisco or Los Angeles by train and on several United States highways to the east, contains many objects of interest to the visitor. Besides the Great Salt lake, from which the city derives its name, there is the beautiful Mormon temple, known throughout the country for its huge size and beautiful architecture. Here, almost daily, can be heard beautiful organ concerts played on the large Temple organ. Throughout the city are spots of historical interest in the development of the Mormon empire.

From Salt Lake City it is a beautiful drive north to Yellowstone park, one of the most famous of the nation's parks, which contains the greatest number of active geysers of any park in the world. The beautiful falls and gorge of the Yellowstone river are likewise famous.

If one is motoring westward from Yellowstone park a swing up to Butte, Mont., and over to Spokane, Wash., can be made. About 100 miles north of Spokane, on U. S. highway 10, is Grand Coulee dam, which is nearing completion. This dam, the largest structure ever attempted by man, is on the direct motor route to Seattle.

## Invitation to Seattle.

An invitation to visit Seattle is extended by Seattle nurserymen to those traveling by automobile expecting to reach the coast a few days in advance of the convention. Headquarters for visiting nurserymen have been provided in the Hotel Washington, where information in regard to contacting Seattle nurserymen to arrange city and nursery trips will be available.

Olympic national park, officially proclaimed last summer as the newest

of the west's seven great national parks, consists of 642,000 primeval acres in northwestern Washington, on the Olympic peninsula. Roads and tourist accommodations are planned for visitors next summer. Roads will go to the high points on the fringe of the park, but no highways will pass through it. The wild "rain forest" of fir, spruce, cedar and hemlock will be preserved, together with the elk, bear and cougar that fill it, as well as the streams of fish.

For the past three years work has been going on to develop an arboretum for the Pacific northwest, consisting of 260 acres that skirt the shores of Lake Washington, in Washington park, Seattle. The city of Seattle contributed the site. The University of Washington became the official sponsor. The W. P. A. approved several projects for the work. Funds were contributed by interested individuals, garden clubs and a local arboretum foundation with hundreds of members. Draining, grading and planting have been going on, greenhouses and propagating sheds have been built, nine acres of nurseries are in use, and several miles of grass walks have been started. Azalea way is the name given to a mile-long walk, to be banked on both sides with rhododendrons and azaleas. The late Dr. Cecil Tenny's collection of 600 species has been donated and set out in a memorial glade. Other enthusiasts have contributed plant material, and

more has been purchased from nurseries.

Another project talked of in the Puget sound country is interesting. This is a mile-long floating bridge across Lake Washington to provide a straight route to the east. The proposed bridge, instead of resting on piers, would be a series of nonsinkable, reinforced concrete barges or pontoons, 300 feet long, hitched together and anchored to big concrete blocks in the lake bed. The reason for the pontoon style construction is that under the 200 feet of water in Lake Washington is 150 feet of mud. Piers of 350 feet would be prohibitive in cost, the present world's record being 247 feet for the piers of the San Francisco-Oakland bay bridge. The pontoon type of bridge, not used before, is considered practical on Lake Washington, because the water level is controlled by locks and there is no ice, drift, tide or current to affect the structure.

## California Plans.

Nurserymen who plan on making the convention trip their vacation and include a visit to the San Francisco fair will find the drive south from Portland along the coast one of remarkable beauty. One may make a portion of the trip on the coast route and a portion on the interior route by going from Portland to Crescent City, Cal., and then east to Grants Pass and to the Pacific highway. Or the interior



Mountains, Waters, Forests in Glacier Park.

route may be taken to Grants Pass and then the road via Crescent City and the coast.

Those who travel on down the coast to San Francisco will find plenty of entertainment awaiting them. Sunday, July 16, will be a general get-together at the Hotel Whitcomb, in San Francisco. A committee of local nurserymen has arranged a sight-seeing trip for July 17, which will end in a barbecue at the California Nursery Co., at Niles. The following day, Tuesday, July 18, will be designated as nurserymen's day at the San Francisco fair.

July 20, the visiting nurserymen will be welcomed at the Biltmore hotel, Los Angeles. In the afternoon they will be taken to the Huntington botanical gardens at San Marino, near Pasadena. The following day's program will probably be one long remembered by all, a visit to the Hollywood movie studios, homes of the stars and the residential section of Los Angeles. This full day of entertainment will be climaxed with a barbecue at the Roy F. Wilcox nurseries.

The committee arranging the entertainment for the nurserymen visiting California is composed of Ray Hartman, Santa Clara, chairman; George C. Roeding, Jr., Niles; Clyde Stocking, San Jose; Clarence Perkins, San Jose, and Frank Tuttle.

#### Western Events.

Those who plan on spending several days in the west will find many events of interest scheduled.

July 20 to 24, Salt Lake City, Utah, will celebrate Utah Covered Wagon days, at which time the city dresses in western costumes to hold parades, rodeos and pageants commemorating the entry of the Mormons, July 24, 1847.

Seattle's Golden Jubilee, "Potlatch," will be held July 25 to 30. This is the celebration of the golden anniversary of Washington as a state. The 5-day program includes a horse show, historical spectacle, parades, regatta and many other events.

For a real taste of the old west, the cowboy reunion at Miles City, Mont., July 28 and 29, will provide an entertaining two days. This event is a gathering of real western cowpunchers who relive the days of the old west.

At Cheyenne, Wyo., July 25 to 29, is what is considered the greatest of all western celebrations, Cheyenne Frontier days.

Also included in the tourist attrac-

tions are the many Indian ceremonials and dances held in various parts of the west, in particular the Indian Sun dance, at Fort Hall, Idaho, July 20 to 24.

#### OAKLAND SPRING SHOW.

The tenth annual California spring garden show, held at Oakland, April 27 to 30, because of the demand for space, occupied double the area used in former years. In addition to the usual auditorium space, a blue and gold canopy was erected for the trade section, and beyond were outdoor gardens staged by various garden club groups.

The California Nursery Co., Niles, used tulips as a border for its rose display down the central aisle. The rose garden included such varieties as Mrs. Sam McGredy, Golden Emblem, Hinrich Gaede, Angele Pernet and Angels Mateu.

The rose exhibit of the Jackson & Perkins Co., San Jose, included Blaze, Eternal Youth, McGredy's Sunset, Amelia Earhart, Margo Koster, Dick Koster, Summer Snow, Snowbank and World's Fair.

W. B. Clarke & Co., San Jose, in an attractive landscape effect, showed many woody plants. The firm received first for three flowering cherries; second for twelve rhododendrons, any variety, and second for a group of three pyramidal conifers, not less than seven feet high, and for a group of pyramidal conifers, not less than ten feet high.

Leonard Coates Nurseries, Inc.,

San Jose, won first prize for a group of conifers and a group of dwarf conifers, while the California Nursery Co. led on a specimen Juniperus Pfitzeriana and another of J. corymbosa, with J. R. Crombie, Oakland, placing third in the latter class. The H. A. Hyde Co., Watsonville, took the blue ribbon for twelve bay trees, with Thompson & Ehrenpfort, leading on an espalier fruit tree, followed by the California Nursery Co. J. R. Crombie placed second for a group of one species of conifer, a similar award going to Martin & Overlach, San Francisco, for ten Pinus Mugho.

#### GARDENS ON PARADE.

Five acres of gardens of every description combine to make up the colorful Gardens on Parade at the New York world's fair of 1939. Pools bordered with flower-rimmed walks; statues and fountains, garden seats and flower-covered walls, all are included in this colorful display of formal and informal, old-fashioned and modern gardens.

An impressive sight of large-scale landscaping greets the visitor entering the fairgrounds. One-half million hedge plants, 10,000 trees and countless varieties of flowers have gone into this gigantic landscaping scheme.

A huge structure, resembling a tent, upheld by twelve 70-foot Oregon pines, forms a beautiful rotunda entrance to an 800-foot building housing floral exhibits and horticultural accessory booths.

Among the outdoor gardens of merit



Rose Garden of California Nursery Co. at Oakland Spring Show.



Rectangular Pool Was Center of Large Exhibit of Jackson & Perkins Co. at California Spring Show.

is the rose garden of Jackson & Perkins Co., Newark, N. Y. The garden starts in front of the terrace dining room and contains about 8,000 rosebushes in 260 varieties. The garden is composed of a series of gardens to fit every size area. There are four groups of gardens here, each containing within itself dozens of different types of beds, so that by simply walking through, one may select the particular type of bed desired, according to the plot of ground available.

One area of the rose garden consists solely of old favorites, while the rest of the space is planted mostly to newer varieties. Another section is devoted to four shades of red roses, including Dickson's Red, with dark blooms five to six inches across; Zulu Queen, Satan and Flambeaux. Among the new climbing roses is June Morn, a large-flowering everblooming pink rose, with a yellow reverse. The international bed contains a new soft solid pink rose known as Eternal Youth. The plantings in all beds and borders are arranged in different heights, so that when the blooms are out, a solid wall of flowers will result.

The plot occupies 10,000 square feet, and eighteen countries have contributed in making this great rose display. Various hybrid tea varieties make up the eastern and western areas of the garden with varieties from Belgium, France, Germany and Ireland

being grown in the eastern section and blooms from England, Italy, Holland, Denmark and Spain being planted in the western section. The entire center area contains new floribunda roses, with the new World's Fair rose, a large brilliant red, occupying the place of honor. The eastern area is dominantly yellow, the center section red, and the western section is composed of soft-tone roses.

A water lily pool is the combined exhibit of Dauernheim, Inc., Waukegan, L. I.; Royal Oak Boxwood Farms, Marion, Va., and William

Tricker, Inc., Saddle River, N. J. The Cottage Gardens, Inc., Westbury, N. Y., shows a year-around garden.

NURSERYMEN of Portland, Ore., have been more than pleased with the signs and injunctions of the Portland junior chamber of commerce encouraging the public to "Clean up—Paint up—Fix up—Dress up." Home beautification is being stressed in a big way, and recently Portland landscape gardeners received a folder from that organization explaining the project.



Woody Plants in Landscape Effect of W. B. Clarke & Co. at Oakland Show.



### SUBDIVIDE NURSERY.

Recent report of the formation of the Swain Nelson Realty Co. revealed that a portion of the acreage of Swain Nelson & Sons Co., Glenview, Ill., not now used for the production of nursery stock was to be subdivided for building development. The tract to be subdivided consists of 146 acres, leaving over 250 acres still to be operated by this prominent landscape and nursery firm. Novel proposals in the subdivision plan by the Nelson brothers have created so much interest that the Chicago Daily News, May 6, on its real estate and building page reproduced a plan of the tract and an architect's sketch of the development. The News account, accompanied by portraits of the Nelson brothers, carried the following interesting information:

It isn't often that an old landscape nursery containing \$500,000 worth of huge evergreens, shrubs and trees of all types is turned into a community of homes. It is an even rarer occasion when the developers don't cut down the trees to make way for the buildings. But it is news bordering on the sensational when both these factors are combined in a superblock "subdivision of the future" with winding roads, dead-end streets, parks, courts and all other known devices for beautifying a community, eliminating through traffic and promoting safety and recreation for children.

With these ideas in mind, two brothers, sons of the founder of one of the oldest nurseries in the Chicago area, are launching a 146-acre development within the village limits of Glenview. The brothers are Hubert S. and Gerald F. Nelson, of Swain Nelson & Sons Co., and the property for fifty-four years has been part of the landscape nursery for that organization.

They are not going out of the landscape business, but merely have formed the Swain Nelson Realty Co. and are undertaking a long-term program for converting this beautifully wooded tract into what they hope will be one of the finest subdivisions in this part of the country. They have named it Swainwood.

The land will be divided into acre, half-acre and third-acre lots, all irregularly shaped. The first section, now being opened, will be laid out with third-acre sites averaging seventy feet in width. On these will be erected homes ranging in price from \$9,000 to \$12,000 including lot, utilities and landscaping. In other sections, prices will range up to \$25,000.

Mason Rapp, of Rapp & Rapp, architects for the project, has designed several houses and the program will get off to a start with five homes. Each home will be completely landscaped by Swain Nelson, utilizing the nursery material already on the lots, rearranging it and adding to it wherever necessary.

In line with the general beautification scheme, electricity and telephone wires will be underground. Water, sanitary sewer, storm sewer, gas and electricity will be installed and paid for in advance, eliminating the possibility of future assess-

ments. Hard-surfaced roads will retain the natural contours of the land.

No lots will be sold for speculation. There are to be minimum building requirements. A committee with homeowner representation will pass on designs and specifications. Each buyer first must join the Swainwood Association of Homeowners.

"Maybe these precautions seem a bit elaborate," Hubert Nelson, 32-year-old president of the realty company, said, "but we want this to be a paradise for homeowners where all the subdivision sins of the past will have been washed away. We hope to be here for a long time and don't want any dissatisfied residents."

The property surrounds the new civic park on three sides. This park, just completed, contains a 100-foot circular swimming pool, three hard-surfaced tennis courts, a playground and a large brick and stone clubhouse.

Glenview, north of Chicago and four miles west of Wilmette, is a village of 2,500 population, with a city manager form of government. "Low taxes allow almost \$2,000 more house than Chicago for the same monthly F.H.A. payment," Gerald Nelson, 30-year-old vice-president of the new realty firm, explained.

Gerald Nelson, a graduate landscape architect of the University of Illinois, was the designer of Swainwood. He and his brother, who studied landscape architecture at Pennsylvania, also manage the 83-year-old Swain Nelson & Sons Co., one of the largest landscape architectural firms and nursery organizations in the middle west.

### SOUTHWESTERN NOTES.

A special meeting of the Kansas Association of Nurserymen has been called for May 15, at the Jayhawk hotel, Topeka. One of the purposes of the meeting is to elect officers of the Kansas chapter of the A. A. N.

The Williams & Harvey Nurseries Co., Kansas City, Kan., has leased several acres of land on Seventy-fifth street, about one-half mile from the nursery, which will be used to increase plantings.

J. W. Tonkin, until recently with the Mount Hope Nursery, Lawrence, Kan., is now with the Atwater Landscape Co., Jamestown, N. Y.

H. D. Chilen, formerly with the landscape department of the Kansas highway commission, is in charge of the construction of a monument at Beatrice, Neb., with the national parks service.

F. Schwendiman, Idaho Falls, Idaho, has started a nursery and reports he has more orders than he can fill.

During the fore part of May, the Garden Shop, Kansas City, Kan., attracted large crowds with its display of thousands of tulips planted in formal garden effect. Each variety was carefully labeled so that visitors could take notes for future reference. The

display was well lighted for night showing.

The Chandler Landscape & Floral Co., Kansas City, Mo., reports a good wholesale business this spring. This company specializes in the production of evergreens to give immediate landscape effects and ships to a large part of the middle west. This spring 40,000 grafted evergreens were planted and large numbers grown from cuttings and seeds. This firm introduced the well known Chandler's scopulorum juniper and is now preparing to put several other new varieties of the scopulorum juniper on the market. C. A. Chandler, president of the firm, made a business trip to Minneapolis recently.

C. E. Reynolds, Dimmitt, Tex., says he is planning to build a small commercial greenhouse and wants to line out some stock now.

### OKLAHOMA MEETING DATES.

The dates for the Oklahoma State Nurserymen's Association summer meeting have been set for June 14 and 15. The meeting will be held at Tulsa, with headquarters at the Hotel Tulsa.

The entire program will be announced soon. The dates were set at this time in the hope that many southern and southeastern nurserymen could stop over for a couple of days while en route to the convention at Portland.

Our policy is to have a real get-together time and to have the nurserymen talk over their problems, rather than a lot of speaking by persons not connected with the industry. The Tulsa Retail Nurserymen's Association is host for this meeting. A barbecue picnic, with visits to some of the large estates in and around Tulsa, will take up the greater part of the second day.

All nurserymen from surrounding territory are invited to be with us.

At our summer meeting at Tulsa last year we registered close to 250 visitors. Texas, Kansas, Arkansas, California, New Mexico and Iowa were represented. So come and join in with us and enjoy a real meeting of nurserymen!

J. A. Maddox, Sec'y.

WILLIAM C. PRICE, president of Towson Nurseries, Inc., Towson, Md., is back at the office, after an illness of several weeks.

# What California Body Accomplished

*Some Achievements of Horticultural Industries, Inc., Recently United with California Association of Nurserymen—By Roy F. Wilcox, Its First President*

The best method of evaluating the net worth of any commodity is to look at its record and then balance the account by taking the bad points away from the good. You can readily imagine what sort of a situation we would be working under today if Horticultural Industries had never been organized. You can remember the deplorable conditions of the nursery business a few years ago. The following are just a few of the many betterments that have been accomplished.

First and foremost, nurserymen have now the most intimate understanding of their problems in the history of the trade. Contacts and acquaintances between members have improved wonderfully with the resultant broader understanding of mutual interests. Being able to see and appreciate the other fellow's viewpoint is the real basis of cooperative effort and I'm glad to say that the trade is now in that desirable position.

Nurserymen of southern California are indebted to Horticultural Industries for its first classified list of over 700 items into fast, medium and slow-growing plants. This was a big job and put over only by the expenditure of much time and effort. This list is of inestimable value and gives all of us a keen insight into the value of each type of plant.

Next came the task of securing an agreement on suggested minimum price lists, which has proved a never-ending assignment, due to changing circumstances. Nevertheless, through the understanding of the efforts and regulations of the Horticultural Industries, every nurseryman has enjoyed business on a higher standard than heretofore, which has also meant a larger profit on items sold.

The lack of a properly conducted cost survey on ornamentals has been a serious problem. At the time of our organization we had a definite promise that such a survey would be made by the University of California, but this went glimmering. We then turned to the Giannini Foundation and the department of agriculture, Harold McFadden making trips to

Berkeley and Sacramento on this, without success. Then we undertook the job on our own, and the first attempt was a dismal failure.

Finally, the board prevailed on Mr. Scherer to assume the task, and he got a cross-section committee together, which delivered as good a cost survey as was ever made. Going into infinite detail on breakdown, it reflected all phases and conditions of growing costs and threw a startling surprise at the membership. Many failed to realize that the items of cost of plant originally, cost of can, soil, canning labor, watering labor, water, general labor, fertilizer and application of it, pest control, supervision and overhead, dumps, contingencies, deliveries and selling costs had to be included when figuring the costs of a growing plant before a profit could be made. Mr. Scherer's committee was selected from small, medium and large growers. As a matter of complete legal detail, this survey, together with two others, tree roses and specimen trees, has been confirmed, approved and adopted by a majority of our members in San Diego, Orange and Santa Barbara counties.

In the matter of contacts with the governmental authorities of cities, counties and state, we can point to a continuous line of service which has been not only of real benefit to the nursery industry as a whole, but to scores of members who had individual troubles. Outstanding in this respect was the exemption from tax liability secured from the unemployment reserves commission of the state of California by a 2-man committee, Mr. McFadden, then president, and the secretary, Lou Johnson. This exemption from the social security tax on agricultural labor has saved many times more tax money for our members than has been paid in dues.

Horticultural Industries' influence played no small part in the establishment of planting week as a regular California horticultural fiesta.

Reports of retail sales to the United States Department of Commerce have been one more of our contributions to the trade, affording

a splendid business barometer on about fifty retail lines.

On the practical side, Horticultural Industries has saved for its members on delivery regulations and replacement rules many a dollar which would have otherwise been written in red ink. This organization was the means of maintaining a healthy price level for a period of two years when an adverse court decision on the unfair practices act, along with business uncertainty, conspired to render it impotent.

As a result of this situation, the organization received criticism from two angles. First, from those who regarded the stabilizing influence of Horticultural Industries' regulations as applying to their competitors only and not to themselves. They reserved the right to chisel if, as and when convenient, but objected strenuously to the other fellow's playing the same game. Second, and properly, the member who gave our regulations his wholehearted compliance was, of necessity, penalized by all operators in the first-named class.

The organization has been hauled over the coals for the asserted reason that "it operated for the benefit of the larger nurseries." Nothing could be further from the fact. The outgoing board of directors was particularly well balanced on the question of large and small nurserymen, and furthermore, we must realize that no one in this business is self-sufficient. We are all dependent one on the other. Don't overlook this fact: Big nurseries cannot and never could exist without smaller nurseries.

I'm quite sure that I can speak for the group of large nursery board representatives when I say that any of us will be quite agreeable to being relieved of the responsibility which has fallen on our shoulders as directors. These men have given much of their time and effort for the good of the industry.

To illustrate some of the disturbing factors which must be corrected, I want to tell you of two recent transactions. One concerns an American nurseryman who figured a landscape job closely and put in his bid

## New Jersey News

at \$100. To his amazement this same job went to another nurseryman for \$40, a loss of \$60 on this one job.

Another instance covers a sale of 700 oleanders. The original quantity bid for large balled plants was 90 cents each. Similar stock was quoted in 5-gallon cans at 57 cents. Finally, the first nursery got the order for 75 cents, a loss of \$105 on this one transaction.

How do you like losses like this? How long do you want to continue business on this basis? Is it better to continue on this hit-or-miss policy and lose money every day, or should we make up our minds to give affirmative support to an active American business association, which should be well organized to protect your interests?

### CALIFORNIA AMENDMENT.

At a meeting of the legislative committee of the California state legislature and representatives of the nursery business in California recently, an amendment to the grades and standards act was agreed upon. This was passed by the senate committee and is to be presented before the senate shortly. California nurserymen are optimistic that senate bill 968, as amended, will be passed by both houses and signed by the governor.

### NEW PATENTS.

The following new plant patents were issued the past month, according to Rummler, Rummler & Woodworth, Chicago patent lawyers:

No. 327. Apple. James W. Savely, near Hendersonville, Tenn. The apple tree variety characterized by the acid flavor and early ripening of the fruit.

No. 328. Nectarine. George E. Alexander, Venice, Cal., assignor to Karl K. Snyder, Hughson, and A. D. Di Grazia, San Francisco, Cal. A variety of nectarine tree bearing a fruit which is characterized by its large size; the reddish-purple color in its substantial entirety when ripe; its thick and tough skin; its firm well flavored flesh, and its long keeping quality in storage.

No. 329. Phlox. John J. Grullemans, Mentor, O., assignor to the Wayside Gardens Co., Mentor, O. A phlox characterized by the hardy, vigorous semidwarf plant; prolific growth, size and compactness of bloom heads, and flower color, which is principally a white having an overcast or hue of blue merging into a distinct blue flower center having a purplish tone.

A RECENT incorporation at Lynbrook, N. Y., was that of the Lynverne Landscape Corp., for \$20,000.

### NEW JERSEY ADVERTISING.

The coöperative advertising campaign, sponsored by the New Jersey Association of Nurserymen and the New Jersey council, was launched on the week-end of April 1. Direct results of the advertising are difficult to estimate, but from reports it is evident that the advertisements have been read.

One nurseryman, who planned advertising of his own to appear at the same time as the coöperative venture, said that the first week of advertising brought in much business. Moreover, he was greatly surprised to find that many persons in the vicinity of the nursery did not know it existed until they saw the advertisement. The resulting business has been so great that he has been forced to buy much more heavily than usual from the wholesalers. This is evidence that advertising can be used effectively to identify a local nursery to prospects in adjacent areas.

In conjunction with the advertising campaign many newspapers carrying the advertisements inaugurated garden pages and were successful in securing additional advertisements from florists, seed stores, supply houses and other allied trades.

Among the New Jersey nurserymen who used their own advertisements in conjunction with the coöperative advertising were DeWilde's Rhodo-Lake Nurseries, Shiloh; Cumberland Nurseries, Bridgeton; Joseph J. White, Inc., Whitebog; Hess Nurseries, Mountain View; Henry A. Dreer, Riverton; Leach's Nurseries, Riverton; Howe's Nurseries, Trenton; Paramus Nursery, Inc., Paramus; Bobbink & Atkins, Rutherford; J. H. Schmidt & Son, Inc., Millburn; New Jersey Foresters Nurseries, Ralston; Maarten Snel, Hackensack; Fort Lee Landscape Nursery, Fort Lee; Ostermann Nursery, Dunellen, and Otto Bergman, Inc., Paramus.

The advertisements, of which there are seven, started with a 2-column display inviting the readers to an open house to be held by all New Jersey nurseries during April and May. The copy stated that the purpose of the open house was for the public to see that the local New Jersey nursery is equipped with a large assortment of

shrubs, shade trees, vines, perennials and other plant materials. It was stressed in the advertisement that the first call at the nursery is much more important for becoming acquainted than making a sale.

Each advertisement displays the emblem of the New Jersey Association of Nurserymen and also that of the New Jersey council. Many of the nurseries advertising in conjunction with these advertisements displayed the emblem of the association or mentioned their affiliation with the association.

### NEW JERSEY MEETING.

C. P. Wilber, New Jersey state forester, has extended an invitation to the New Jersey Association of Nurserymen to hold its annual summer meeting at Washington Crossing park, August 8. The use of the entire facilities of the park has been set aside for the association on this day.

It will be necessary for the park officials to know in advance approximately how many nurserymen will attend the meeting so that sufficient tables may be set aside.

### MUNICIPAL NURSERY.

A 3-acre tree nursery is being established at Livingston, N. J., on municipally owned property, by the Livingston shade tree commission, it was announced May 6 by W. Robert Connor, commission chairman. Transplanting of trees to the section from other municipally owned tracts was started immediately. Most of the trees to be set out, it was announced, would be pin and red oak, dogwood, maple and beech. These will eventually be transplanted again to line township streets and public grounds.

It was stated the work is being performed by E. Richard Jensen, of the Livingston Nursery, for about \$300, the sum allowed the commission in the 1939 municipal budget. Mr. Connor said Mr. Jensen was willing to do the work for that price only because of an agreement that he can have young trees from township property, where there are thousands.

The commission at first had planned to use National Youth Administration labor, but delays led to a decision to



use private labor because of the rapid advance of the season. Mr. Connor said it already was late for transplanting and that soon it would be impossible. Trees being transplanted have a trunk thickness of one and a half to three and a half inches.

The trees will be left on the nursery tract for years and will form a reserve. For some time the township plans to use for shade trees those trees already growing on municipal lands. B. J.

#### NORTH JERSEY MEETING.

The April meeting of the North Jersey Metropolitan Nurserymen's Association was held at the office of R. S. Stone, Bergen county agricultural agent, Hackensack, N. J., April 13.

Dr. C. C. Hamilton, associate entomologist at the experiment station, New Brunswick, gave an interesting lecture and demonstration on the identification of insects attacking nursery plants. With the exception of a few of the more common insects, such as rhododendron and azalea lace bugs, spruce gall aphids and a few borers, the average nurseryman experiences considerable difficulty in locating and identifying other insects described in available books and bulletins.

Dr. Hamilton has something different in a key contained in a huge loose-leaf binder. In demonstrating this new key, Dr. Hamilton displayed some Riker mounts containing specimens of insect injury to foliage and twigs and in some cases specimens of the insects themselves. These mounts were labeled only with the name of the host plant. With the use of the new key manuscript the members were able easily to identify the insect causing the injury to the various mounts. The key contains a brief description of the insects, or damage, occurring to each of the many kinds of trees and shrubs.

A complete reference as to description of injury, life history and habits of the insect and methods of control is also contained in the key.

Since many different insects attack a large number of plants, it is quite difficult for the nurserymen to know where to look to find a description of the insect in the average book. The brief descriptive keys preceding each of the host plants and describing insects attacking them made it much



## The Storrs & Harrison Company

"PAINESVILLE NURSERIES"

85 Years in  
Painesville, Ohio

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### MIDWEST HEADQUARTERS

**FOR COMPLETE NURSERY SUPPLY**

**Fruit Trees**  
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Evergreen Trees  
Shrubs  
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Roses  
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Covering all of the best shrubs and plants for the south. Also a half million of lining-out CAMELLIAS, AZALEAS AND GENERAL NURSERY STOCK.

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*Specialist in CAMELLIAS, AZALEAS, IRIS and HEMEROCALLIS*  
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## HIGH-QUALITY NURSERY STOCK

We are still offering a good assortment of all kinds of nursery stock.

Write for Bulletin No. 3 showing grade counts.

### LAKE'S SHENANDOAH NURSERIES

SHENANDOAH, IOWA

easier to identify the insects in question.

The members all felt that Dr. Hamilton had something that is needed and expressed the hope that it will soon be completed and available.

William Hallicy, Sec'y.

#### NURSERY FUMIGATION.

In connection with the growing interest in the use of methyl bromide for fumigating nursery stock, C. Courtney Seabrook, of the Koster Co., Bridgeton, N. J., contributed the following remarks to the bulletin of the New Jersey Association of Nurserymen:

"We started to build our gas box on a Monday morning and had it ready for our first treatment by Friday aft-

ernoon. We built our box on skids, so that it can be moved easily and also can be loaned to one of our neighbors. The box has 100 cubic feet capacity and cost as follows: Lumber, etc., \$23.82; hardware and electric, \$40.27; tin liner, \$14.41; labor, \$18.72, and thermometer, \$5, the total cost being \$102.22.

"In addition to the above costs of the box, we bought a 50-pound cylinder of methyl bromide, which cost us \$45.91 delivered. Our box can treat twenty flats containing 1,000 6-inch to 8-inch lining-out Azalea mollis or 150 6-inch to 8-inch A. Hinodegiri or twenty-five 18-inch rhododendrons in one treatment. Additional labor, electricity, gas, etc., are about \$3 as compared with \$14.50 for the same

amount of plants by the old paradichlorobenzene method.

"We place the plants in our box the night before and leave it turned on all night so that the soil will have the correct temperature for treating the next morning.

"We have probably treated \$3,000 or \$4,000 worth of material so far this spring, which we could not otherwise have sold, as the cost of treating the same material with paradichlorobenzene would have been prohibitive."

From A. E. Sprigman, of Princeton Nurseries, Princeton, come the following comments on experiences with the new treatment:

"We have found this treatment satisfactory on deciduous stock and balled evergreens up to an 8-inch size. The United States Department of Agriculture is now working on an effective treatment to take in balls up to 14-inch. This will be a real help to nurserymen.

"We have found that a few varieties are somewhat burnt by the treatment—*Pinus Bungeana*, *Chamaecyparis plumosa aurea*, *Abelia grandiflora* and *Juniperus sylvestris* (oblonga). However, this treatment is only in the formative period now and we cannot give any really definite information."

Other nurseries at which the new equipment is reported to have been installed include Bobbink & Atkins and Julius A. Roehrs, both at Rutherford, and Verkade's Nursery, Paterson.

#### FOR RUTGERS ARBORETUM.

Public opening of Willowwood Farm, 135-acre estate of Henry and Robert Hamilton Tubbs, at Gladstone, N. J., which has been offered to Rutgers University for an arboretum, was held May 6 and 7, with the Garden Club of New Jersey as host. Mrs. Reginald Saunders, club president, announced the purpose of the exhibition is to stimulate interest in the club's campaign to raise \$100,000 as an endowment to enable Rutgers to accept and maintain the gardens. The university will take title to the estate if the sum is raised. The terms of the gift provide that the Tubbs brothers may live there during their lifetimes.

Of the total acreage, 110 will be immediately available to Rutgers for development, the remainder being re-

served for the brothers, who have been experimenting in horticulture for years and took thirty-two years to transform the farm from a blackberry patch to a home of rare and exotic plants. Their experimentation was done in close cooperation with the Arnold Arboretum at Boston.

B. J.

#### OBITUARY.

##### C. T. Smith.

C. T. Smith, president of the Smith Bros. Nursery Co., Concord, Ga., since its start over fifty years ago, died April 24, at his home, at Concord. Although he had been ill for about a week, Mr. Smith's death came unexpectedly from a heart attack. He was 74 years old.

Mr. Smith was born in Dade county, Ga., in 1865, and with his brother, J. H. Smith, established the Smith Bros. Nursery Co., operator of Concord Nurseries. Mr. Smith had been general manager and president of the firm since its establishment. At the time of his death Mr. Smith was also president of the Concord Banking Co. He had served three terms as mayor of the city of Concord and also as president of the Southern Nurserymen's Association. He had been president of the Country Bankers' Association and president of the Georgia Horticultural Society.

Surviving Mr. Smith are one son, C. Richter Smith; a brother, J. E. Smith, both of Concord; two sisters, Mrs. Jesse T. Ellis, Griffin, and Mrs. Florence Brown, Concord.

##### William Murray.

William Murray, general assistant to L. C. Bobbink, of Bobbink & Atkins, Rutherford, N. J., died May 1 at St. Mary's hospital, Passaic, N. J.,

after an operation for stomach ulcers. He had been ill only two weeks.

Born in Scotland, the son of Hugh and Margaret Murray of New College, Edinburgh, Mr. Murray was only 35 years old. He began his horticultural career in the gardens of the Duke of Sutherland, at Dunrobin Castle, where he earned appointment to the Royal Botanic Gardens of Edinburgh. There he spent four years in intensive study in general horticulture, majoring in herbaceous plants. He came to the United States in 1930 and was at first employed by Bay State Nurseries, Inc., North Abington, Mass., and by Barnes Bros. Nursery Co., Yalesville, Conn.

Mr. Murray joined the staff of Bobbink & Atkins in 1933; he was at first in charge of the herbaceous department, but subsequently Mr. Bobbink enlisted his interest in roses. He had become expert in the identification of varieties and had a profound knowledge not only of the blooms themselves, but of the habits of growth of an immense number of varieties.

##### Carl E. Klein.

Carl E. Klein, 69, died April 25 at his home in Horsham, Pa. Mr. Klein, who was the proprietor of the Fair Oaks Nursery, had been ill since Christmas. He was a native of Sweden.

Survivors are the widow, Ida C.; two sons, Carl and Alfred, and a daughter, Bertha. Funeral services were held April 28, at Ambler, Pa., and interment was at Whitmarsh Memorial park, where services were held by the F. & A. M. lodge.

##### D. Webster Dow.

D. Webster Dow, who until about two years ago owned and operated

## HILL'S BOOK OF EVERGREENS

This beautifully illustrated book answers every question about evergreens. Produced by America's leading evergreen nursery with a background of 80 years' experience.

Fifty chapters, including complete information on uses, descriptions, propagation, historical and cultural information pertaining to evergreens.

Cloth bound, 7x9 1/2 inches, containing 320 pages and 360 illustrations, 45 in full color. \$3.50 postpaid.

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Now you can test Goodrich Budding Strips at our expense. Simply specify the type of budding you do and samples of the correct style will be sent to you at no cost.

Goodrich Budding Strips exert an even pressure over the entire bound area. They are strong enough to hold firmly, yet flexible enough to expand freely with bud growth.

Buds knit faster, stands are healthier and stronger because maximum protection is provided without danger of cutting. Goodrich strips are self-releasing and made purposely to deteriorate at the correct time, automatically loosening on the stand.



**Goodrich**  
*Rubber*  
**BUDDING STRIPS**

the Dow Nursery Co., North Epping, N. H., died recently in the Melrose hospital, Melrose, Mass., from pneumonia. Burial was in the family cemetery at North Epping. Mr. Dow was in his eighty-fourth year.

The nurseries are the oldest in New Hampshire and were established by Mr. Dow's father in 1840. An object of interest at the nurseries is the spelling of "Dow" in American arbor-vitæ trees standing about fifty feet high.

Virgil E. Bryan.

Virgil E. Bryan, owner and operator of the Capitol Garden Nursery, Oklahoma City, Okla., died at Oklahoma City after a brief illness, May 1. Death was caused by a heart attack.

Mr. Bryan was serving his third consecutive term as president of the Oklahoma State Nurserymen's Association, and during his term of office the membership more than doubled because of his willing and active work. He went to Oklahoma City in 1910 from Morresville, Mo., and for a number of years he was stock superintendent of the Ford Motor Co. at Oklahoma City.

He was a member of the Oklahoma City Masonic lodge No. 36 and India Shrine, and a thirty-second degree Mason. He also belonged to the University Place Christian church, of which he was a member of the board of deacons and finance committee.

He is survived by his widow, Mrs. Justa Clark Bryan and a daughter, Mrs. Warren Welch, both of Oklahoma City; his parents, Mr. and Mrs. E. G. Bryan, Breckenridge, Mo., and a brother, Hobert M. Bryan, Morresville, Mo.

### JEWELL CO. DISSOLVED.

The Jewell Nursery Co., Lake City, Minn., was dissolved by order of Judge Vernon Gates, in the district court, Rochester, Minn., April 22, and Kenneth B. Law was appointed receiver to close its affairs. Creditors are allowed six months in which to file claims, and October 28 has been set as the date for the hearing on such claims. The Jewell Nursery Co. was placed in a special type of receivership last January on an action brought by the Rochester Production Credit Association to foreclose its chattel mortgage on the nursery stock and at that time Kenneth B. Law was appointed receiver.

**\$2750**

F. O. B.  
Kansas  
City



(Patent No. 110-110)

## NURSERY HAND TRUCK

These nurseries are using this truck. It will save labor and make money for you too.

Ambo, Edward W., University City, Mo.  
Baker, Harry Franklin, Minneapolis, Minn.  
Bay State Nurseries, North Abington, Mass.  
Boyd Nursery Co., McMinnville, Tenn.  
Bull's Nurseries, Babylon, L. I., N. Y.  
Burroughs, Mortimer, Clayton, Mo.  
Del Amo Nurseries, Compton, Calif.  
Delmar Nursery, Delmar, N. Y.  
Durham Plant & Nursery, Durham, N. C.  
Eureka Nursery, Hicksville, L. I., N. Y.  
Fell's Lynbrook Nursery, Lynbrook, L. I., N. Y.  
Fish & Co., Chas., Worcester, Mass.  
Frost & Higgins, H. L., Arlington, Mass.  
Garden City Floral Co., Missoula, Mont.  
Goldboro Nursery, Goldboro, N. C.  
Grimley's Evergreen Nursery, St. Charles, Mich.  
Haas, Frederick, Baltimore, Md.  
Highland Nurseries, The, Johnstown, N. Y.  
Hillsdale Landscape Co., Indianapolis, Ind.  
Horeman & Sons, John, Rochelle Park, N. J.  
Hoyt's Sons Co., Stephen, New Canaan, Conn.  
Ilgenfritz' Sons, I. E., Monroe, Mich.  
Irywild Evergreen Nursery, Colorado Springs, Colo.  
Kansas Evergreen Nurseries, Manhattan, Kans.  
Kenyon's Nursery, Oklahoma City, Okla.  
Lake's Shenandoah Nursery, Shenandoah, Ia.  
Laketon Nurseries, Laketon, Ind.  
Lakewood Nursery, Lakewood, O.  
Lovett's Nursery, Little Silver, N. J.  
Marshall's Nurseries, Arlington, Neb.  
Meadowbrook Nurseries, Englewood, N. J.  
Millane Nurseries, Cromwell, Conn.  
Mount Arbor Nurseries, Shenandoah, Ia.  
Natorp Co., The W. A., Cincinnati, O.  
Neosho Nurseries Co., Neosho, Mo.  
Niemann's Nursery, Cincinnati, O.  
North State Nursery Co., Julian, N. C.  
Ohio State University, Columbus, O.  
Pennsylvania State College, State College, Pa.  
Phelps, Edmund J., Wayzata, Minn.  
Porter-Walton Co., Salt Lake City, Utah  
Roland Park Co., Baltimore, Md.  
Rose Hill Nursery, Minneapolis, Minn.  
Rose Hill Nursery & Florist, Panora, Ia.  
Raysenars, John C., Louisville, Ky.  
Rockford Nurseries, Rockford, Ill.  
Siebenthaler Co., The, Dayton, O.  
Smith & Sons, Ltd., E. D., Winona, Ont., Canada  
Sneed Nursery Co., Oklahoma City, Okla.  
Sunny Hill Nursery, Granville, Wis.  
Towson Nurseries, Towson, Md.  
Upland Empire Nurseries, The, Boise, Ida.  
Wabash Valley Nurseries, LaFayette, Ind.  
Walman, L. J., Wilmette, Ill.  
Warner's Landscape Service, Towson, Md.  
Westminster Nurseries, Westminster, Md.  
Williams Nurseries, Harvey, Lincoln, Neb.  
Woodmont Nurseries, Woodmont, Conn.

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Mfrs. of Automotive Tree Movers.



# Minnesota News

## FARM FORESTRY.

The state forestry bill, No. 847, passed by the 1939 Minnesota legislature and signed by the governor, provides that trees furnished by the state for farm forestry planting shall be purchased from Minnesota nurseries.

Section 3 of the bill states:

"In all purchases of forest planting stock under the provisions of this act, preference shall be given to trees grown in this state by duly inspected Minnesota nurseries, and such purchases shall be paid for out of the fund hereinafter created and accruals thereto from sale of trees purchased. If suitable stock for this purpose cannot be obtained from Minnesota nurseries, it will be permissible to secure such nursery stock from nurseries outside this state. All money received from the sale of trees shall be placed in the state tree fund, which said fund is hereby created."

The bill further provides that not less than 1,000 trees, not including fruit or ornamental trees, shall be sold for an individual planting and that no trees may be resold by the purchaser. It also states that trees so purchased shall be used only for shelter belt planting, windbreaks or reforestation of farm woodlots.

Two appropriations of \$2,500 each for the years ending June 30, 1940, and June 30, 1941, are to be added to any funds received from the United States government under the Clark-McNary act.

## WENZEL SUSPENDED.

Herman C. Wenzel, state conservation commissioner, who presided at the hearing given Minnesota nurserymen last December before the interim committee of the legislature on the proposal for state nurseries, was suspended from his office April 26 by Governor Stassen and formal ouster proceedings were ordered against him.

After serving eight terms as commissioner in the city council of St. Paul, Mr. Wenzel was appointed state commissioner of conservation for a 6-year term, July 1, 1937, by the former governor, Elmer Benson. His appointment was approved unanimously by the state senate. The new governor asked for his resignation two weeks ago. On his

refusal to resign, the suspension and ouster proceedings followed.

In consequence of the hearing last December, the bill recently passed by the legislature provided for the quantity purchase of nursery stock by the state from commercial nurserymen for resale to farmers at cost in order to promote wood-lot plantings.

In commenting editorially on the suspension of Commissioner Wenzel, the St. Paul Dispatch stated that, while it had differed from him on many questions of policy, the newspaper believed him an honest and capable administrator. The governor's charges are surprising, it stated, adding that judgment must be withheld until they are either proved or discredited. Hearing before the governor has been set for May 22.

Discharge of Ellery A. Foster, director of the state division of forestry, followed May 4, after he had written a letter to the governor protesting against the suspension of Commissioner Wenzel and announcing his intention to resign for that reason and because of "political animus" on the part of the administration and the recent legislature. Lester Badger, secretary to Governor Stassen, who was made acting conservation commissioner when Mr. Wenzel was suspended, ordered Mr. Foster to turn his office over to Henry G. Weber, deputy director, who was named acting director.

## SPRING IN MINNESOTA.

One of the questions every nurseryman in Minnesota asks when spring arrives is, how much winter injury was there to plants? So far as fruit trees and small fruits are concerned, the general report is that this type of material never wintered better. This condition is unusual because there were

really two winters in one. In the case of large trees and evergreens, the former wintered well, but in some areas there has been considerable wind burn of evergreens. Scotch pine, jack pine and junipers, particularly the last-named, were badly hit in some areas. Spruces in a few cases did not come through winter too well, either. It has been reported that the junipers will take several years to get into a normal condition and be acceptable. On the other hand, a number of nurseries do not appear to have been bothered in the least with this so-called wind burn.

Seed beds of shrub material are in fine condition, and young plants are coming through the soil in large quantities. Snow could be seen late in April less than twenty miles from the Twin Cities. The writer saw frozen ground around plants of thyme Wednesday, April 26, in spite of the rain and higher temperatures preceding.

Shrub material is in wonderfully good condition; the shoots of practically every shrub are alive to the tip. This is, of course, unusual. Even some species of deutzia that always kill back, sometimes to the ground, came through as though they were willows.

Perennial plants have moved slower than usual, and it has not been so easy to determine how much injury these have suffered, if any.

One factor brought forcibly to the attention of the writer has been the connection between winterkilling and drainage. The effects of good soil drainage, or the lack of it, have been seen at University Farm in the plantings of chrysanthemums. Several

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Carloads or truckloads only.

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Pyramidalis, Globosa, Rosenthalii and Spiralis  
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6 to 9 ins., 2-yr. tpls. .... 120.00 per 1000  
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BRIDGETON, N. J. Write for catalogue

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of PRINCETON, N. J.

**SUPERIOR  
Hardy Ornamentals**

thousand plants have stood the winter in admirable condition in general, though one block on lower levels and with poorer drainage is looking sick. The survival in this block will be spotty.

Injury from rabbits has been as much as usual, but injury from mice has been much worse. Roses in many cases have been badly injured by rabbits, while mice have gone in for everything, including the small twiggy shoots of *Thymus vulgaris*.

While it is not expected that nurserymen can afford the necessary labor to make two jobs of removing mulch from perennials, yet where this was done this spring, the wisdom of partial uncovering has been plainly seen. One inch or less of mulch has kept many perennials in better condition, and the advantage is showing up more clearly every day.

A cooperative program is under way in Minnesota by which shrubs, instead of fences, along highways will be the rule in the future. The state forestry, agriculture and highway departments are stressing the movement as the result of experiments which have been conducted by the lake states forest experimental station, with headquarters at University Farm, St. Paul. A report has been made emphasizing the triple benefits which have accrued in preventing drifts, beautifying the highway and increasing soil moisture to the adjacent lands. Possible benefits to orchards are also referred to.

The idea is to plant dense growths of shrubbery along all or as many highways as possible, but as far as the writer can visualize results, it will mean that the plantings will have to be made far back from the roads, at least fifty feet or more; otherwise the shrubs will cause drifts on the highways instead of preventing them. Nurserymen should have material which they would gladly sell for such a purpose—shrubs, for example, that are too large for the average home planting.

Louis Sando.

## HIGHWAY PROJECT.

Bids were received by the state highway commission of Montana, Helena, May 12, on nursery stock to be used on a roadside improvement project in Jefferson county. The specifications called for 477 trees and 112 shrubs.

## SHRUBS

**Final Spring Special  
Closing-Out List.**

	Per 10	Per 100
Althea, assorted colors, 2 to 3 ft. ....	\$1.00	\$8.00
Barberry Thunbergii, 3-yr., heavy, 15 to 18 ins. ....	1.00	8.00
18 to 24 ins. ....	1.20	10.00
Barberry, Red-leaved, 15 to 18 ins. ....	2.00	18.00
18 to 24 ins. ....	2.50	22.00
Beauty Bush, 4 to 5 ft. ....	4.00	35.00
Bush Honeysuckle, 3 to 4 ft. ....	1.20	10.00
Cornalberry Chenaultii, 2 to 3 ft. ....	1.20	10.00
Deutzia, 4 to 5 ft. ....	2.00	18.00
Dogwood, Pink-flowering, 2 to 3 ft. ....	8.50	...
18 to 24 ins. ....	7.50	...
Dogwood, Red-stem, 2 to 3 ft. ....	1.50	12.00
3 to 4 ft. ....	2.50	20.00
Forsythia, 2 to 3 ft. ....	1.20	10.00
3 to 4 ft. ....	1.50	12.50
Jap. Flowering Quince, 18 to 24 ins. ....	1.20	10.00
2 to 3 ft. ....	1.50	12.50
Lilac, assorted, 2 to 3 ft. ....	3.00	25.00
Mock Orange, 2 to 3 ft. ....	1.00	8.00
3 to 4 ft. ....	1.50	12.50
Pussy Willow, 3 to 6 ft. ....	2.00	17.50
Rhodotypos, 4 to 5 ft. ....	3.00	17.50
Spiraea Anthony Waterer, 15 to 18 ins. ....	1.20	10.00
Spiraea Billiardii, 2 to 3 ft. ....	1.00	8.00
Spiraea Golden, 2 to 3 ft. ....	1.20	10.00
Spiraea Korean, 3 to 4 ft. ....	1.50	12.00
Spiraea Vanhouttei, 2 to 3 ft. ....	1.00	8.00
3 to 4 ft. ....	1.50	12.50
Tamarix, 5 to 6 ft. ....	2.00	17.50

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Juliana Barberry, rooted cuttings, \$10.00 per 100.

Pfitzer's Juniper and Taxus, rooted cuttings, \$7.00 per 100.

In paper pots add 3c each.  
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## New Books and Bulletins

### GARDENING IN SHADE.

If all the persons who have been discouraged from gardening because of the problem of shade could read the book by Mrs. H. K. Morse, "Gardening in the Shade," just published by Charles Scribner's Sons, at \$3, their interest in plants would be promptly revived.

About half of the 200-odd pages in this book are taken up with a discussion of the variations in shade, of soils and their treatment and of the planting and maintenance of a shaded garden. How various types of gardens can be carried out in shaded areas is developed in enthusiastic detail.

The second half of the book is devoted to "who's who" in the shade, a detailed list of some 500 perennials, annuals and shrubs that thrive in or tolerate shade conditions, with the cultural needs of each. And an index of twenty-one pages enhances the usefulness of those notes.

Having struggled with the problem of growing plants in shade, this reviewer believes greater help would be given by such plant lists if they were divided to distinguish plants that thrive in shade and those that tolerate shade. A good many plants will tolerate shade, at least for a few seasons, but they may not make the growth or even the appearance of the same species when given the sunlight in which they thrive. Landscape designers and planters today give much thought to the native habitat of plants, and by so doing they give their garden subjects a far greater opportunity to thrive and so gratify the owners in years to come. There is an abundance of plant material suitable to almost any location, and by selecting that natural to it the happiest results are obtained.

### FOR THE HERB GARDENER.

While there are in it a few comments about the plants themselves, "What to Do with Herbs," by Mary Cable Dennis, just issued by E. P. Dutton & Co., is chiefly concerned with the use of plants in the kitchen, in the bath and in making liqueurs. This neat little book of less than 100 pages is written in a chatty fashion by an author now living in Normandy and familiar with the French use of herbs. She takes the reader on a visit

through her small herb garden and tells the uses of each herb. A number of recipes at the back of the book add practical value. For the herb fans this little book will have charm, interest and value. The price is \$1.50.

### PRESERVING WILD LIFE.

Persons interested in the preservation of wild life will find a book by James R. Simmons, "Feathers and Fur on the Turnpike," of interest and a good source of information on the mortality of fowls and animals on highways of the country. Much space of this 146-page book is devoted to the salvaging of specimens that have been killed on the highways for the purpose of mounting. Ten half-tones illustrate the book, which is published by Christopher Publishing House, Boston, Mass. The price is \$1.75.

### EDIBLE WILD PLANTS.

More than thirty years ago, when he was assisting Dr. Harvey M. Hall in making a botanical survey of San Jacinto mountain, in California, Oliver Perry Medsger encountered an intelligent Indian who was much interested in the plants used by his ancestors for food. From that time on Mr. Medsger has been collecting data on edible plants, which are now gathered in a volume of over 300 pages, just published by the Macmillan Co., at \$3.50, under the title "Edible Wild Plants."

Some idea of the extent of this information may be gathered by the statement that the general index covers almost nineteen pages, each containing two columns of small type. A descriptive index of the edible plants, giving the scientific and common names, characteristics, range,

season and page reference, occupies seventy pages of the volume. Eighty pen-and-ink drawings and nineteen photographs add to the information of the text.

Mr. Medsger, who is professor emeritus of nature education, Pennsylvania State College, has personally tried out almost every variety described and tells not only their characteristics, but also how to prepare or cook the plants.

Not only is this information of general interest for understanding what use the pioneers made of wild plants for food, but the volume gives reliable data of use to hunters, fishers and campers.

### BULLETINS RECEIVED.

"White-pine Blister Rust in Wisconsin," by E. L. Chambers and T. F. Kouba, of the Wisconsin department of agriculture and markets, just issued as bulletin 204, discusses the various aspects of the disease in Wisconsin. It covers the amount of infection in the state, method of infection, method of control, species of ribes found in the state, regulations covering selling and distribution of ribes and the assistance which the state and federal governments offer to pine owners who wish to protect their trees from blister rust.

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3 to 6 ins., well rooted	1.25
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Chinese Elm, 2 to 3 ft., fine stock	1.50
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12 to 18 ins.	4.00
Tulip Tree, 3 ft.	3.00
Boston Ivy, fine seedlings	2.00
Weeping Willow, Babylonian, 2 to 3 ft.	3.00

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3 1/4-Inch pots 10 100 1000  
Charming, new true pink...18c 15c 12c  
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Abies Balsamea, Thuja Occidentalis, Tunga Canadensis. Per 1000 Per 1000  
3 to 6 ins.....\$5.00 9 to 12 ins....\$12.00  
6 to 9 ins.....8.00 12 to 18 ins....29.00  
Juniperus Virginiana, 4 to 8 ins., \$12.00 per 1000.  
Puddled and carefully packed. Cash with order. Write for other lists.

**WILLIAM C. HORSFORD** Charlotte, Va.

**R. B. FRIEND APPOINTED.**

Dr. Roger B. Friend was appointed Connecticut state entomologist and head of the entomology department of the agricultural experiment station, at New Haven, May 5. He succeeds the late Dr. W. E. Britton, who was state entomologist from 1901 until his death, last February. The appointment was made by the board of control of the experiment station at the regular quarterly meeting at Hartford.

The office of state entomologist was created in 1901, when fruit growers of Connecticut were alarmed over the spread of the San José scale. From a fairly simple department at the beginning of the century, the office has now expanded greatly. It includes the divisions of insect pests of orchards, vegetables, the household, lawns, forests and ornamentals. Under the supervision of the state entomologist also come the duties of the deputy in charge of Japanese beetle control, nursery inspection and gypsy moth control, and insect problems relating to the Dutch elm disease.

Dr. Friend is a native of Massachusetts. He served in France during the World war, later returning to Massachusetts State College, where he obtained a bachelor of science degree in 1923. The following summer he worked as assistant entomologist on the conservation commission in New York state under Dr. E. Porter Felt, then state entomologist of New York. He went to New Haven in 1924 to enter the graduate school at Yale University.

After receiving his doctor's degree at Yale in 1927, Dr. Friend became assistant, and later associate, entomologist at the experiment station.

Forest insects are Dr. Friend's chief field of interest in entomology. He has compiled, edited and contributed sections of the "Diptera of Connecticut," a part of the state geological and natural history survey. This volume, or series of volumes, is now ready for press and promises to be the most comprehensive and authoritative study of its kind ever published. Dr. Friend is also author of many scientific articles, bulletins and circulars of the station including: "The Asiatic Beetle," "Biology of the Birch Leaf Skeletonizer" and "The Birch Leaf-mining Sawfly."

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*Taxus cuspidata*, spreading, propagated from cuttings of the improved dark green strain.

	Ea. per 100	Ea. per 1000
18 to 24 ins. light XXX B&B.....	\$1.25	\$1.15
18 to 24 ins. heavy XXX B&B.....	1.50	1.35
2 to 2 1/2 ft. XXX B&B.....	2.00	1.85

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	Per 10	Per 100
8 to 10 ft., B&B.....	\$50.00	\$450.00
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## NEW NURSERY LIST.

[Continued from page 5.]

it flowers well and is tolerant of city conditions and shade. These important characteristics would seem to warrant its place on the selected list.

*Ligustrum amurense*, Amur privet, of all the privets coming within this group, appears to be the most worthy of a place on the selected list, as well as *Ligustrum vulgare*, the European privet. Exception might well be taken to these two preferred types in warmer climates. The Amur and European privets are the hardiest of the species and well suited for hedge purposes. The Amur privet lacks the dark green foliage and black, showy fruits of the European privet, but it does lend itself to tall clipped hedges. *Ligustrum vulgare* is satisfactory as a hedge and as a large specimen or border plant. The various varieties of the European privet possess few characteristics to commend their use.

One of the privets, *L. Ibolium*, is placed in the secondary group. For all but the colder climates it will be hardy enough to recommend. It is a hybrid, closely resembling *L. ovalifolium*, one of its parents. It possesses the glossy, semievergreen leaf character of this parent, but is much hardier. It should be used in the north for hedge purposes rather than *L. ovalifolium*, where a hedge of this type is desired. *Ligustrum Iboita*, which has little to recommend it, is relegated to the discard list along with *L. obtusifolium* and *ovalifolium* varieties.

*Lonicera Maacki podocarpa*, late honeysuckle, is possibly the most attractive and useful of all the large honeysuckles. Of vigorous growth habit and possessing rather large, long pointed dark green foliage which persists late in the season, this variety becomes especially useful in large borders or as specimens. Its fragrant white flowers, fading to yellow, and its abundance of dark red fruits which persist late in the autumn add to its attractiveness. It will do well in either sun or partial shade.

The rather uncommon *L. demissa*, with its small leaves and attractive fruits, is placed in the secondary list, and *L. chrysantha* and *Ruprechtiana* and varieties, which seem to possess no outstanding characteristics which are not exhibited to better advantage by other species, are placed in the list of discards.

*Rhamnus Chadwicki* is a plant whose

origin is not known. It has been growing in the gardens of the horticultural department at Ohio State University for better than ten years. The writer's profuse comments regarding the outstanding qualities of this plant soon led some of the students in ornamental horticulture at Ohio State University and some of the nurserymen in Ohio to give this type of *rhamnus* the specific name *Chadwicki*. It differs from other species and varieties of *rhamnus* by its rapid growth, stiff, stout stems bearing some thorns and large glossy green leaves which persist late in the autumn. Perfect, dioecious and polygamous flowers seem to exist; consequently not all plants may fruit. Fruits are black, borne abundantly on fruiting plants, and persist nearly all winter. This plant is free from pests and tolerant of almost any soil and sun or shade. It makes a good shrub for border planting and for hedge purposes. In three growing seasons 18-inch plants developed an excellent clipped hedge of over six feet in height with a 30-inch spread. It holds its lower branches and foliage exceptionally well. The other species of *rhamnus* are placed in the secondary or discard list as they do not possess so outstanding characteristics.

*Symplocos paniculata*, Asiatic sweetleaf, a plant that possesses the combined characteristics of good form, foliage, flowers and fruits, should be used as often as possible in landscape plantings. The Asiatic sweetleaf is said to obtain a height of as much as forty feet; it seldom exceeds fifteen or twenty feet. It is of compact,

## AMERICAN NURSERYMAN

rounded habit of growth with horizontal spreading branches that bear bright green leaves and fragrant, small white flowers in clusters two to three inches long in May and June. In September the plant is attractive with its bright blue fruits about one-third of an inch in length. There are so few plants with blue fruits that the sweetleaf should be a welcomed addition from the standpoint of fruits alone, regardless of its other outstanding characters. It is said to do best in an acid soil, but for two years it has responded well in our tests in neutral or alkaline soil.

No attempt will be made at this time to give a selected list of hybrid lilacs. Discussions in the past in the *American Nurseryman* have given many outstanding varieties. I should emphasize the fact that there appears little need of growing and recommending to landscape gardeners a long list of varieties. Ten or fifteen varieties should suffice. These varieties should possess good growth habit and foliage as well as a variation in color and season of bloom.

Varieties of *Syringa chinensis* and *S. vulgaris* should provide early to midseason flowers, while the main show of lilacs can be followed by

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*Syringa Henryi* Lutèce, a late-flowering shrubby variety.

Other species and varieties are placed in the secondary or discard list as indicated and as their characteristics justify according to my observations.

A majority of the viburnums are shrubby plants of group 6. Since, as mentioned before, the viburnums are among our most useful and important deciduous shrubs, it is difficult to choose a few for the selected list. Of some twenty-five species and varieties, six have been placed in the selected list. Most of the others are in the secondary list. This allocation has been made because it was felt that they did not possess so outstanding characteristics as some of the other species or varieties they resemble or because they have not been tested sufficiently to warrant placing elsewhere. Only *Viburnum Opulus*, the European cranberry bush, and some of its varieties are placed in the list of discards. Some may question this placement, but there is little question of the fact that *V. americanum* is better than the species, *V. Opulus*, and *V. tomentosum plicatum* and *V. macrocephalum sterile* are as good as or better than the common snowball, *V. Opulus sterile*.

*Viburnum americanum* is without doubt the best of the large red-fruited types and certainly warrants a place on the selected list. Its foliage is much more attractive than that of *V. Opulus*.

*Viburnum Lantana*, wayfaring tree, is one of the largest of the viburnums and one of the most satisfactory for border and screen planting. The flowers are white, borne in flat-topped clusters. The rough, wrinkled, dark green foliage is especially attractive. The fruits are at first red, but soon change to black. *V. Lantana* is densely branched and rounded in outline and thrives in almost any soil and does well in either sun or shade.

*Viburnum macrocephalum sterile*, Chinese snowball, has had limited observations, but these seem to justify its being placed on the selected list. Its flowers are nearly pure white and are borne in larger heads than either the European or Japanese snowballs. Its leaves are relatively small, dark grayish-green and attractive. So far its hardiness in Ohio cannot be seriously questioned. This plant should be given extensive trials before its placement is finally set.

*Viburnum prunifolium*, black haw,

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Federico Cassa, copper-pink,  
Golden Fernet, yellow,  
Lady Hillingdon, yellow,  
Luxembourg, yellowish,  
Margaret McGredy, flame,  
McGredy's Scarlet, red,  
Mrs. Chas. Bell, flesh Radiance,  
Mrs. Lovell Swisher, pink,  
Mrs. Pierre S. du Pont, yellow,  
Mrs. Herbert Stevens, white,  
Radiance, pink,  
President Hoover, orange and pink,  
Sour Therese, yellow,  
Willowmere, pink,  
Frau Karl Druschki, white,  
General Jacqueminot, pink,  
Henry Nevard, everblooming red,  
Ulrich Brunner, red,  
Golden Moss, buff-yellow.

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Hansa, red,  
F. J. Grootendorst, red,  
Pink Grootendorst, pink,  
Rugosa Alba, single white,  
Sarah Van Fleet, pink,  
Sir Thomas Lipton, white.

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ordinarily flowers in late April, earlier than the wayfaring tree. It is even larger than the wayfaring tree and develops into a bushy tree form with horizontal spreading branches. The flowers are pure white borne in flat clusters. The fruits are black. This species may be used as a specimen or as a border or screen plant. Soil and exposure are similar to those suggested for *V. Lantana*. This native species should be more generally used.

*Viburnum rufidulum*, southern black haw, is even stiffer and more horizontally branched than the common black haw and possesses smaller, lustrous, leathery, dark green leaves. The flowers are pure white and fruits are dark blue or blue-black. Its uses are similar to those of the black haw. Both possess good autumn foliage color.

*Viburnum Sieboldii*, Siebold viburnum, is a vigorous grower with large glossy green leaves that remain late in the autumn. Creamy white flowers are produced in May followed by attractive fruits which are first pink, but finally change to black. This species is satisfactory as a specimen or for border planting.

Most of the viburnums in the secondary list need but brief comment. *Viburnum betulifolium*, *burejaeticum*, *cotinifolium*, *erubescens*, *furcatum*, *lobophyllum* and *ovatifolium* are all uncommon and need further testing. *Viburnum Lentago*, *molle* and *nudum* are common and need no further comment. *Viburnum Sargentii* is similar to *V. americanum* and the variety *flavum* possesses attractive yellow fruits. *Viburnum theiferum* has narrow pointed leaves and an abundance of small red fruits similar to those of *V. dilatatum* and *Wrightii*.

*Viburnum fragrans* is the earliest of the viburnums to flower. Our plants at Ohio State University are too small to flower, but this species has been observed in flower prior to the fifteenth of April. The fragrant flowers, borne in clusters, rival those of the popular *Viburnum Carlesii*. They are pink in bud, but when fully open become almost white. The plant is a more vigorous grower than *V. Carlesii*, probably reaching ten feet at maturity. In habit of growth it is quite narrow and upright. When used as a specimen or as an accent in the border, it will be among the most effective of the early-blooming plants.

In addition to the discussion of the

plants in the selected list, with other species and varieties of the same genera, there are a few statements that should be made regarding the placement of some of the other genera in the secondary or discard list.

In general, there should not be serious objections to the plants allotted to these two lists. Some native plants will be used sparingly and possibly can be collected; others have not been sufficiently tested to warrant placing elsewhere, and still others are common and the good and poor qualities are well known. To conserve space, no further comment will be made regarding most of these plants other than to mention again that criticism of selection and placement will be gladly received and commented on through correspondence.

A few other genera and species, some uncommon and some common, whose placement may be most often criticized can be mentioned briefly.

*Æsculus parviflora*, bottle-brush buckeye, a plant of the southeastern states, is especially effective during the summer months when few other shrubs are in flower. Coming into bloom in early July, the pinkish-white flowers borne in clusters ten to twelve inches long, remain effective throughout the month and often into August. The plant grows in clumps and often reaches ten to twelve feet in height. The bottle-brush buckeye makes an excellent screen or specimen when grown in rich, moist soil. In similar locations this plant will do well in shade,

but in dry soils it is likely to become rather loose and open. Its soil requirement limits its use.

Some may question the placement of *Azalea canescens*, *luteum*, *Schlippenbachii* and *Vaseyi* in the list of discards. This would be true especially with the last two named. Where these azaleas can be grown satisfactorily they are surely lovely plants. Both have proved doubtful in the hot dry summers of central Ohio. Their difficult cultivation and specific requirements have necessitated their placement on the discard list for our particular locality at least.

*Benzoin aestivale*, spicebush, usually attains a height of eight to ten feet, but may under especially favorable conditions reach fifteen feet. Among its outstanding characteristics is its fondness for moist, shady conditions under which it seems to flourish remarkably well. It may, however, be used under ordinary lawn conditions. Besides its early yellow flowers and its neat and attractive light green foliage which turns pale yellow in autumn, the branches bear numerous red fruits which ripen in late summer or early autumn. The fruits are not effective because they are partially hidden by the leaves and, furthermore, birds take them rather quickly after they ripen. The characteristics of this plant warrant its use in a limited way in naturalistic plantings, especially those of a moist, shady nature.

Though *Davidia involucrata*, dove-tree, is outstanding in flower, tests have



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not shown it to be sufficiently hardy  
to warrant general recommendation.

While there is no doubt but what  
Lagerstrœmia indica, crape myrtle,  
would find a place on every selected  
list of shrubs for the south, it is not  
considered hardy north of Baltimore.  
There is some indication that it might  
be handled similarly to buddleia as far  
north as Columbus, O.

The selected few varieties of phila-  
delphus have been of the smaller sizes  
and mentioned in discussions of the  
previous groups.

Prunus incisa has been known for  
a good many years, but it is not widely  
cultivated. This is probably due to  
the fact that the plant is not quite so  
showy as many of the other Japanese  
cherries in flower. However, in our  
test it would almost rate a place on  
the selected list. It is a small, shrubby  
tree with purplish young leaves and a  
mass of small pinkish-white flowers. It  
seems to be perfectly hardy in Colum-  
bus, O., and has been lovely in flower  
for the past three years. It seems more  
reliable in flower than most of the  
more common Japanese cherries.

The next article will be devoted to  
a discussion of the small trees of  
group 6.

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**ARBORICULTURE.**

[Continued from page 8.]

pollarding, vista cutting and topiary or formal work.

In specimen tree pruning the important consideration is the health of the tree. Secondary to that is the general appearance. Deadwood and intersecting branches should be removed periodically from such trees, of course, but the less live wood that is removed the better will be their health and the greater their beauty.

The problem of clearing away interfering branches from utility lines is a constantly recurring one. Until recent years the necessary clearance was undertaken by untrained linemen during periods when their services were not needed for line constructions, repair, etc. The resulting mutilation of trees brought about an unfavorable reaction from the public, which has resulted in the employment of foresters and trained tree workers, particularly in the north, to perform this function.

Occasionally it is desirable to head back an old overmature tree which is having difficulty in maintaining its crown in an unfavorable environment. This process is known as pollarding. It should not involve the drastic cutting which we so often see done by untrained men, but rather should be planned to cover several seasons to allow the tree to recover from several small shocks instead of a major one and to permit the development of a desirable new crown.

The opening of vistas often may be accomplished by judicious pruning, although the removal of entire trees is sometimes necessary to create the effect desired.

It is probably unnecessary to go into detail regarding pruning technique. I should like to stress, however, the necessity of making several cuts in the removal of a large limb to prevent stripping the bark. It also may be worth while to mention the importance of shaping the final cut. When the sap flow is obstructed by a wound, it is diverted around the obstruction with the flow assuming an elliptical course. If bark areas are left above and below the wound, they will receive little sap and might weaken and die, thus creating a larger and unprotected wound. Often it is better to remove these triangular sections at the time of pruning so that the entire wound may be dressed and protected.

A problem frequently met is that of removing one of two limbs which are growing nearly parallel to each other so as to form a tight V-shaped crotch. The apparent junction of such limbs may be one or two feet from the real point of intersection and, of course, the final pruning cut must be made at the real intersection to heal properly.

**Bracing**

The bracing of trees is an essential part of a tree preservation program. Adequate bracing not only prevents disfigurement of trees, but it also prolongs tree life by preventing the formation of some types of wounds. Even after a tree is badly decayed, cabling may prolong its period of usefulness by providing mechanical support for structural weaknesses.

The need of bracing may be indicated by the structural arrangement of crotches. Trees having tight V-shaped crotches frequently require strengthening, while those with open U-shaped crotches rarely require this attention.

Early tree-bracing methods involved costly custom-made materials. Such methods included the use of chains to support weak limbs, long rigid iron bars placed high in the trees, various systems of wires and homemade cable and iron collars placed around split crotches. Not only was much of this work expensive, unsightly and inefficient, but in many cases the results were actually harmful.

Today we use materials which have been especially developed for tree bracing, such as lag hooks, eye and hook bolts, threaded screw rod, galvanized and copper-covered strand, etc.

Tree bracing is applied in several ways. We have cable bracing of crowns applied in various systems, such as single and multiple direct, hub and spoke, box or rotary, and triangular. Rigid bracing of weak or split crotches is achieved through the installation of threaded screw rods at or above the crotches. Threaded rods

are also useful in strengthening cavities and are used in the form of lip bolts and crossbolts and for vertical bracing. Guying of transplanted trees and inter-tree bracing are necessary phases of the arborist's work.

Not only have bracing methods been improved in recent years, but installation technique has been simplified. The use of electric drills to prepare holes for screw rods has saved many a weary arm, and the use of low-gear apparatus permits the use of large-size screw rods, which would be impossible to insert with hand methods.

**Fertilization.**

One of the most interesting, but perhaps the least understood, phases of arboriculture is the fertilization and aeration of shade trees. We do not have space to go into details of the various formulas and all of the methods which are used in modern practice, but I should like to mention a few general application methods.

Early attempts to fertilize mature trees were based on broadcasting the fertilizer or placing it in trenches. These methods were found unsatisfactory, and the crowbar method was developed. Refinements of this have led to the use of electric drills to prepare holes in the feeding area after which the fertilizer is inserted.

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A relatively new method has been developed known as the "aero-fertil process." In this, the holes are drilled by compressed air; air is then forced into the soil to open up the soil structure; the fertilizer is inserted in the hole and then distributed through the fractured soil.

Good results have been obtained frequently by simply aerating sour soils with compressed air. In this system the holes are prepared with a drill, after which the air is blown into the soil with an air gun. Trees suffering from fills, compaction, toxic soil conditions or excess moisture are sometimes brought back to health and vigor by this means with no fertilizer used at all.

**Wound Treatment.**

The treatment of tree wounds is the most widely publicized, expensive and spectacular phase of tree preservation, but it cannot be truthfully said that it is always the most important. The term "tree surgery" probably came into use to designate general shade tree care largely by reason of the activities of the predecessor of the modern arborist, whose main object seemed to be to plug every wound with concrete. Thousands of dollars have been spent in placing "concrete monuments" in trees with little or no actual benefit except to the pocketbook of the operator.

The modern arborist knows that early treatment of tree wounds is relatively inexpensive and is simple in technique. It is valuable in that proper treatment and aftercare prevent the development of major wounds.

When wound treatment is required, it should be preceded by a thorough diagnosis of the environmental, mechanical and pathological condition of the tree. It is important to know whether the original wound was caused by mechanical injury, insect or disease attack, or poor workmanship, or whether it resulted from adverse environmental or meteorological conditions.

The simplest type of wound treatment is bark tracing, required when only the bark and cambium are injured. This involves cutting back the scar to an even perimeter to induce rapid and regular healing and subsequent treatment of the exposed wood to prevent infection.

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decayed, considerable excavation is required, after which the wound may be braced, drained, dressed and left open, or it may be filled with one of several materials.

The most common material in use today for this purpose is sectional concrete, which, although having many disadvantages, is cheap and easy to obtain and is fairly easy to install, and if conditions are favorable and technique is perfect, the results apparently are often successful. Other materials in use include wood applied in the form of impregnated strips and magnesite in the form of a proprietary material known as flexifil, and in some parts of the country asphalt mixtures are in use. In past years there have been many other materials used for cavity fillings or coverings, such as brick, tar, sawdust, cork, metal, etc., but these have been largely discontinued.

The recent development of a wound treatment in which rubber, wax and cork are used has proved of interest. A dam of rubber strips is first built across the face of the excavated cavity which is partially backfilled with cork blocks. Melted wax is then forced into the backfill under steam pressure, after which the holes for the wax are plugged and the rubber facing is dressed.

Many of the foregoing materials and methods frequently have been successful, but too great a percentage of the treatments have failed for one reason or another; either the material cracked; the callus died back; the wound fluxed; the filling separated from the wood, slumped, disintegrated, or fell out, or in some other way was far from being a successful piece of work. I have had occasion to inspect a large number of most of these materials and methods of cavity treatment, and I can say conservatively that the perfect all-purpose treatment for a major tree wound is yet to be demonstrated and proved. Perfection of technique must be depended upon for satisfactory results.

Today, the enlightened arborist is worrying less about cavity work than in the past and is devoting his energies toward more beneficial assistance to trees. One large company recently stated that less than five per cent of its business now comes from cavity treatment, and I believe this is typical of the better organizations.

#### Lightning Protection.

Since the time of Benjamin Franklin the value of lightning rods for the

protection of buildings has been recognized. Protection of trees from lightning, however, is a comparatively new practice, but during the past few years it has been done on a slowly increasing scale. Records which the national park service collected in 1935 indicate that over 4,000 trees have been given lightning protection in the past twenty years with no subsequent injury, and it is now the policy of the service that trees of outstanding importance, which are especially valuable from an aesthetic or historical viewpoint and which are growing in historical parks and national cemeteries, shall be given this protection when financially possible.

Our present technique of lightning protection for trees is an adaptation from installations which have been found satisfactory for building protection. Fundamentally speaking, tree protection consists of a vertical conductor which extends from the top of a tree to the ground where it branches into three radial conductors. These extend beyond the root area where they are attached to ground rods about eight feet long. The theories and details of protection installation are too involved to permit much discussion here, but I do want to mention a few major principles.

In general, a single main cable is extended from the highest part of the tree along the trunk to the ground and thence to ground rods. If the tree is forked, branch connectors are extended to the highest limbs and, if the tree is very large, two down conductors are extended on opposite sides of the trunk

and interconnected near the top. It is important to place the conductor cable in as near a straight line as possible, and no angles less than ninety degrees should be allowed. Conductors are usually attached to trees with copper nails, but special lags may be used.

A protection installation can never be considered a completed job, because it will need periodic maintenance due to the growth of the tree. The system should be checked every three to five years in order to extend the air terminals upward and to replace the copper nails when diameter growth tends to embed the conductor. The ground terminals and connections should be periodically examined to check for corrosion and electrolysis.

#### Root Treatment.

In the treatment of certain tree ailments we must often look underground for the primary cause of trouble. We may find that the real cause of the decline of a tree's health may be laid to root rots, girdling roots, gas injury, grade changes, etc. In treating the tree we must, of course, correct the harmful condition if it is to recover its health and vitality.

In the case of girdling roots usually



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it is relatively easy to uncover the offending member and cut it off before the constriction has caused serious damage. Careful excision and stimulation of the remaining roots are sometimes necessary if the tree is to be brought back to health.

As has been mentioned before, the grades around the base of trees may be safely changed if proper preliminary treatment is given. We must try to prevent a substantial change in the delicate ecological balance between moisture and air, microscopic flora and fauna, and mycorrhizae which exists in all life-sustaining soils.

Modern methods of raising grades involve the placing of horizontal and vertical tile lines for controlling drainage and aeration, the placing of coarse rock fill to permit air to reach the roots and the placing of porous tree wells to prevent deterioration of the trunk.

Many trees have been seriously damaged by failure to give prior protection, and it is rare that arborists can correct an adverse condition of long standing. Occasionally, however, it is possible to bring back a tree which is declining because of a moderate grade change. This takes skill and experience and is relatively costly.

The treating of gas-injured trees is a field of growing importance to the arborist. Gas lines, particularly in the older sections of cities, often develop leaks which result in tree injury and death. If the leaks are detected in time, it is possible by careful aeration, soil washing, fertilization and pruning to save gas-injured trees. One company, prominent in this field, claims a record of having saved ninety per cent of gas-poisoned trees which it has treated.

### Big Tree Moving.

Another interesting phase of the arborist's work is the moving of big trees. The limiting factors in determining the size of a tree which can be moved today are road clearance and the weight which the road will stand; otherwise, almost any tree can be successfully moved.

Tree-moving technique, of course, varies. The various types of equipment are represented by the Irish tree-moving trailer, which supports the ball and trunk directly; the Copeland tree mover with its rigidly attached plates for the root ball with no direct trunk support, and the tree-moving Gar Wood crane.

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necessary. Good results are frequently obtained by burlapping and platforming the root ball and lifting onto a standard truck. Occasionally it is necessary, when moving trees growing in sandy soil, to box the root system to keep it intact. Many of the trees used at the Texas centennial and the San Francisco world's fair were moved long distances in this way.

After planting the tree the job is not completed. The trunk and major branches of most species should be wrapped with special crêpe paper or burlap to retard transpiration and to protect them from sunscald and borers. Several methods of guying newly transplanted trees are in use, but the best for general use probably is the lag screw and cable system, which is secure and which injures the tree the least. Aftercare of the tree must include mulching, pruning and watering in order that it may rapidly establish itself in its new location.

#### Needs of Arboriculture.

We have gone over rather briefly some of the various phases of arboriculture, and now I should like to add a few remarks regarding three pressing problems in this field. I refer to the urgent need for specialized research, adequate collegiate teaching and professional recognition.

Although arboriculture has been practiced in one form or another since ancient times, we still know comparatively little about shade trees and their requirements. We need to know much more concerning shade tree diseases, nutrient requirements, wound treatment, slime flux, bracing, root treatment, injections, soil requirements, grade changes, diagnosis, etc. In fact, the more one studies arboriculture the more he is appalled by his lack of accurate knowledge in all phases of shade tree care. Most of our present knowledge is a matter of application from other fields, and I believe that shade trees are important enough in themselves to warrant more specialized research.

Few colleges today offer undergraduate specialization in arboriculture, although three or four are making strides in that direction. Numerous institutions offer many courses which are of great value to the prospective arborist, but I think we shall all admit that the field could be covered more adequately. The curriculum offers spe-

cialization in many other phases of forestry. Why not arboriculture? Certainly the study of the individual tree is at least as close to pure forestry as management, silviculture, entomology, botany, etc.

At the present time it is as difficult for the public to differentiate between the truly trained arborist and the unskilled practitioner as it is between the professional forester and the ordinary woodsman. Both of these difficulties have arisen from unrestricted use of the terms "forester" and "arborist." Some states, notably Connecticut, have taken cognizance of this situation and have established licensing boards to examine tree workers. Licensing laws are valueless, however, without control powers, and these the states have been reluctant to grant.

The solution would seem to lie in the plan presented in 1937 by Orville Spicer. The plan embodied an examining board in each state which, upon proper proof of ability and examination, would grant to qualified men the right to use the title "certified arborist" or "certified tree expert." If these terms were properly publicized and control powers given to the examining boards, it would not only protect the public from incompetents, but it would give protection and recognition to a class which is rapidly becoming professional. The certified public accountants, architects, engineers and doctors have protected their titles; why not the arborists and tree experts?

#### The Arboricultural Field.

It seems to me that this field should be of especial interest at the present time. The expansion since 1933 in

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federal forestry employment through emergency agencies has caused a flooding of forestry schools. The present number of students more than equals the total number of foresters now professionally employed, the output of a quarter of a century. When we realize that there are now about 5,000 men in forestry schools and that since the forestry profession began in this country there have been less than 7,000 graduates altogether, we can readily imagine the competition for employment in the future, especially since the emergency work has reached a period of retrenchment.

The preponderance of professional opportunity has been and probably will be with the federal and state forestry agencies, but the arboricultural field offers a promising opening to at least a few.

For those interested in commercial tree preservation probably the best opportunities lie with established companies. After an apprenticeship with a reputable concern the college-trained forester can determine whether to continue as a representative of an established organization, start his own company or set himself up as a consulting arborist.

Public service offers an excellent opportunity to many. Cities, counties, states and the federal government use arborists in one department or another.

The forestry graduate should realize, however, that while his training provides him with a good background of technical knowledge for arboricultural work, this must be followed by a period of apprenticeship under actual working conditions before he is capable of diagnosing shade tree needs, prescribing treatment or estimating costs. He should plan to spend several years after graduation in intensive work under experienced arborists in order to obtain a practical knowledge of tree care if he is to become a leader in the field. He should also keep abreast of new developments in arboriculture through participation in the sectional and national shade tree conferences, through membership in arborists' and foresters' organizations and through constant study of new publications. Methods and knowledge are constantly being improved through invention and research, and the arborist must keep up with these or he will miss the parade.

### EDIT "PLANT NAMES".

William A. Dayton has joined the editorial committee on "Standardized Plant Names", acting with Donald Wyman and Harlan P. Kelsey, according to the announcement of the latter.

Mr. Dayton, senior forest ecologist in charge of range forest investigations of the United States Forest Service, has been authorized to establish an office with suitable assistants and clerical help, where the final work in preparing the printer's copy for the book will be done. This cooperation of the United States Department of Agriculture with the American Joint Committee on Horticultural Nomenclature will greatly mitigate the loss to the editorial committee through the death of Dr. Frederick V. Coville. Mr. Dayton collaborated with the committee in the preparation of the first edition of "Standardized Plant Names" and has continued to render aid and advice in the preparation of the second

edition. He is to be addressed at room 401, Atlantic building, 930 F street, N. W., Washington, D. C.

Mr. Kelsey reports that it is hoped the new edition of "Standardized Plant Names" will be ready for publication by next December or January. The enormous amount of new material will require two volumes, each approximately the size of the single-volume first edition. One volume will contain the straight alphabetical list of botanical and common names, while the second volume will contain the long horticultural variety lists and special groups, such as economic plants, drugs, fruits, herbs and others.

JOE KATAYAMA has opened the Horbat Nursery at 203 West Victory boulevard, Burbank, Cal.

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Greater significance than ever before is held by this annual meeting—the trade's most important gathering of the year. Expanding sales and increased production will demand complete understanding and co-operation of members on marketing problems. Legislation, quarantines, taxation and other vital trade problems will be discussed. Talks by the leaders of the industry will receive utmost attention.

## PRE-CONVENTION NUMBERS

### JUNE 1

*Forms close May 26*

### JUNE 15

*Forms close June 10*

### JULY 1

*Forms close June 25*

Advance information on scheduled events, subjects up for discussion, entertainment features and the complete convention program will appear in these pre-convention issues.

**Every Grower** should take this opportunity of inviting contact with prospective purchasers of nursery stock for fall and spring, by keeping his name before the industry in these numbers. Remember that big spring plantings mean an increased supply for the coming season.

**Manufacturers of Equipment and Supplies** will find it to their advantage to direct attention to their products in these issues at a time when the nursery operators are interested in matters pertaining to growing and shipping stock.

Ready money from spring sales will stimulate buying. The greater attention centered in the pre-convention issues spells increased value for your advertising dollar. Plan your convention publicity program in the *American Nurseryman* now!

**AMERICAN NURSERYMAN** — 508 S. Dearborn St., Chicago



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Would  
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## NURSERYMAN'S TAPE!

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These results actually have been obtained and are not uncommon according to letters received from nurserymen. This famous tape is harmless yet offers protection against parasitic infection. Effective and dependable in reducing knots and malformations among piece-root grafts. A spiral wrapping forms an air-tight covering that decomposes before any danger of girdling arises.

Increase your profits with Nurseryman's Tape. Send for samples and prices.

### WHOLESALE PRICE LIST OF LINING-OUT STOCK — Spring 1939

#### CUTTINGS Well established plants from 2¼-inch pots

	per 10	per 100		per 10	per 100
<i>Juniperus depressa plumosa</i>	\$1.10	\$10.00	<i>Taxus media</i>	\$1.10	\$10.00
<i>Juniperus horizontalis Bar Harbor</i>	1.10	10.00	<i>Taxus Hunnewelliana</i>	1.10	10.00
<i>Ilex crenata rotundifolia</i>	1.10	10.00	<i>Taxus repandens</i>	1.10	10.00
<i>Retinispora plumosa aurea Gold Dust</i>	1.10	10.00	<i>Thuja occ. globosa</i>	1.10	10.00
<i>Retinispora squarrosa nana</i>	1.10	10.00	<i>Thuja occ. pyramidalis</i>	1.10	10.00
<i>Taxus cuspidata</i>	1.10	10.00	<i>Thuja occ. recurva nana</i>	1.10	10.00

#### GRAFTED STOCK from 2¼-inch pots

	per 10	per 100		per 10	per 100
<i>Acer palmatum Ashi-Beni</i>	\$3.50	\$30.00	<i>Juniperus virginiana glauca</i>	\$2.75	\$25.00
<i>Acer palmatum atropurpureum novum</i>	3.00	25.00	<i>Juniperus virginiana globosa</i>	2.75	25.00
<i>Acer dissectum atropurpureum</i>	3.00	25.00	<i>Juniperus virginiana Keteleeri</i>	2.75	25.00
<i>Cedrus atlantica glauca</i>	4.00	35.00	<i>Juniperus virginiana Kosterii</i>	2.75	25.00
<i>Chamaecyparis obtusa gracilis nana compacta</i>	3.00	25.00	<i>Juniperus virginiana Schottii</i>	2.75	25.00
<i>Cornus florida pendula</i>	4.00	35.00	<i>Juniperus virginiana pendula</i>	2.75	25.00
<i>Cornus florida rubra</i>	3.00	25.00	<i>Juniperus virginiana pyramidaliformis</i>	2.75	25.00
<i>Fagus sylvatica pendula</i>	3.00	25.00	<i>Magnolia Alexandrina</i>	3.25	30.00
<i>Fagus sylvatica Riversii</i>	3.00	25.00	<i>Magnolia Halleana stellata</i>	3.25	30.00
<i>Fagus sylvatica tricolor</i>	3.75	35.00	<i>Magnolia Soulangeana</i>	3.25	30.00
<i>Ilex opaca femina</i>	2.75	25.00	<i>Magnolia Soulangeana nigra</i>	3.25	30.00
<i>Ilex opaca Howardii</i>	2.75	25.00	<i>Thuja occidentalis Douglasii spiralis</i>	2.25	20.00
<i>Juniperus columnaris glauca</i>	2.75	25.00	<i>Thuja occidentalis elegantissima</i>	2.25	20.00
<i>Juniperus columnaris viridis</i>	2.75	25.00	<i>Thuja occidentalis lutea Geo. Penbody</i>	2.25	20.00
<i>Juniperus chinensis neoboriensis</i>	2.75	25.00	<i>Thuja occidentalis lutea B. &amp; A. Type</i>	2.25	20.00
<i>Juniperus chinensis Sargentii</i>	2.75	25.00	<i>Thuja occidentalis nigra</i>	2.25	20.00
<i>Juniperus squamata</i>	2.75	25.00	<i>Thuja occidentalis Rosenthall</i>	2.25	20.00
<i>Juniperus squamata argentea variegata</i>	2.75	25.00	<i>Thuja occidentalis Wareana (sibirica)</i>	2.25	20.00
<i>Juniperus squamata Meyerii</i>	2.75	25.00	<i>Thuja orientalis aurea nana</i>	2.00	18.00
<i>Juniperus virginiana Burkill</i>	2.75	25.00	<i>Thuja orientalis conspicua</i>	2.00	18.00
<i>Juniperus virginiana Canertii</i>	2.75	25.00	<i>Thuja orientalis elegantissima</i>	2.00	18.00
<i>Juniperus virginiana elegantissima</i>	2.75	25.00	<i>Tsuga canadensis Sargentii</i>	2.75	25.00

TERMS: Prices in this list are net cash, but the usual terms will be extended to those of established credit. No goods sent C.O.D. unless 25 per cent of amount is sent with order. Five of one kind will be billed at the 10 rate, 25 at the 100 rate, 250 at the 1000 rate.

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